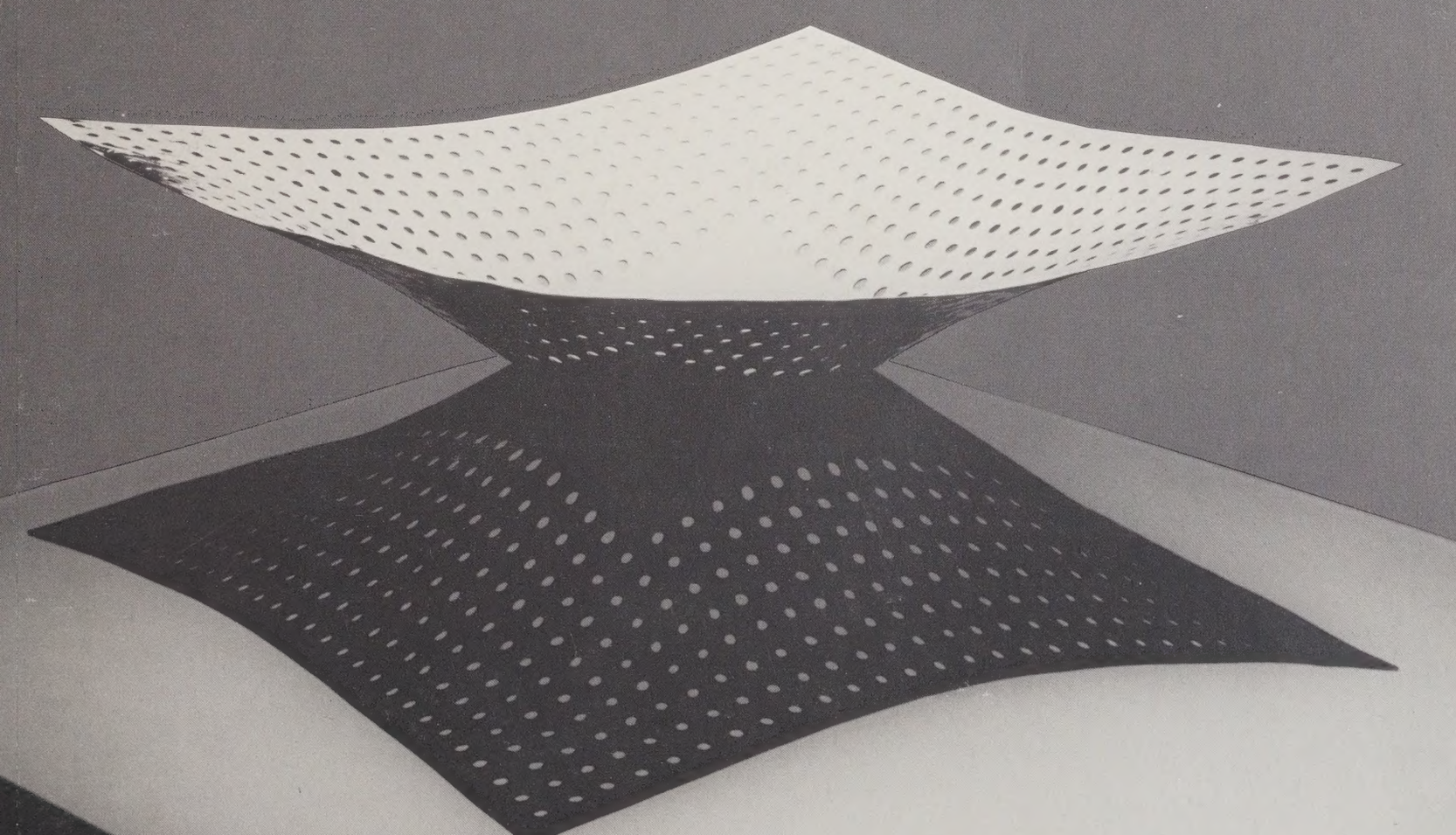
Metalsmith

Winter 84 volume four number one $5.00

Master Metalsmith: Irena Brynner
Production Jewelers
Metal Spinning III
Gallery Directors Survey
Metalsmith's Guide to Germany

Hans Appenzeller
Process Made Visible in Elegant Designs



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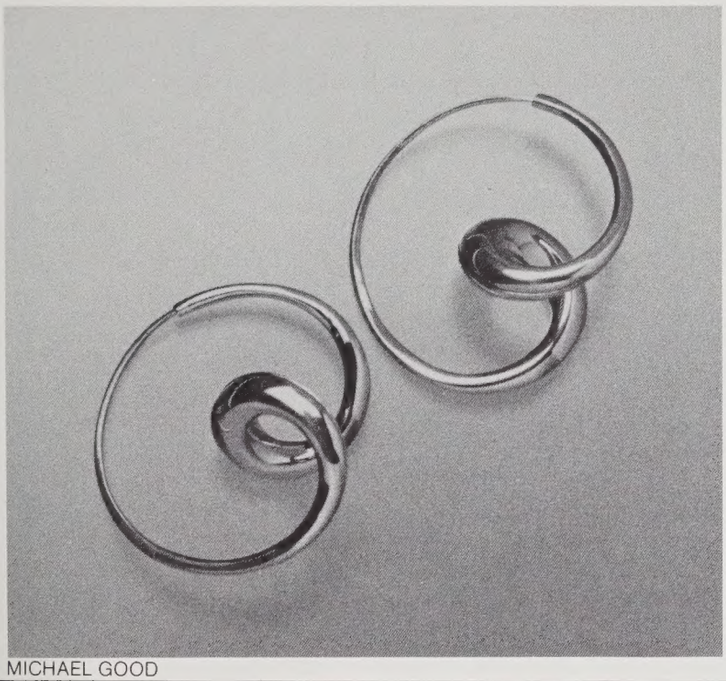

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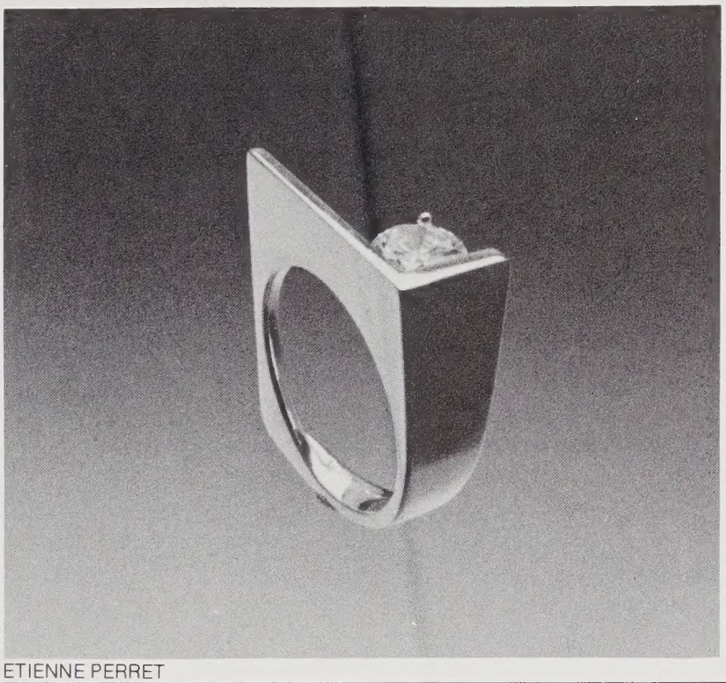

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The purpose of this exhibition is to showcase the diversity and vitality of those who are working in the jewelry discipline. Included in this diversity will be artists working in established modern styles and those whose work is geared towards the marketplace as well as individuals who are experimenting at the edge of the avant-garde.

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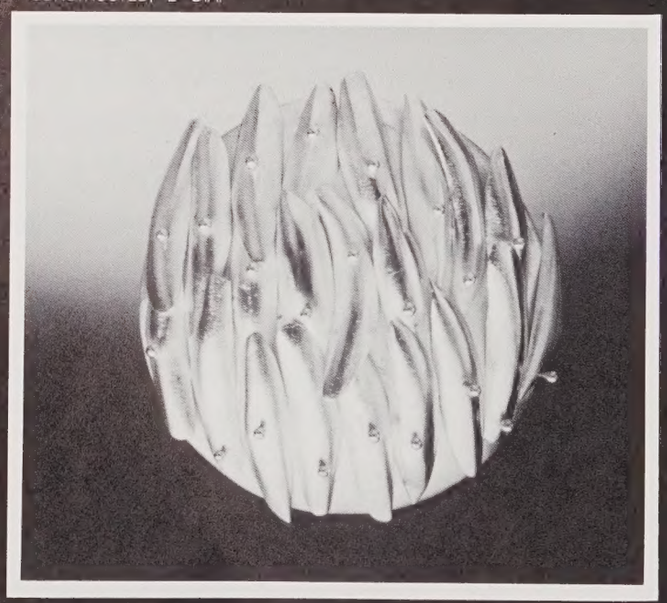

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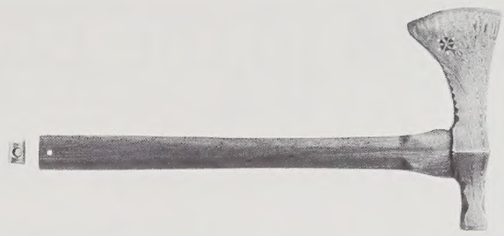

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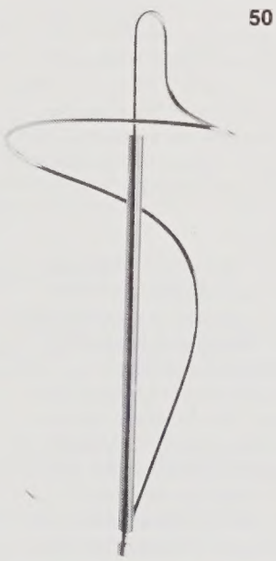

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Cover: Hans Appenzeller, *Bowl*, silver

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Published quarterly by the Society of North American Goldsmiths (SNAG), a nonprofit organization, 2849 St. Ann Drive, Green Bay, WI 54301. Annual membership rates, which include a subscription to *Metalsmith:* $75 for Distinguished Members, $45 for Members and Institutions, $30 for Students.

Annual subscription to *Metalsmith* (4 issues): $20 United States and Canada; $26 all other countries (surface mail).

Address membership and subscription inquiries to: Bob Mitchell, SNAG, 2849 St. Ann Drive, Green Bay, WI 54301. Telephone (414) 465-6680. Claims for missing issues only accepted if received within four months (USA, Canada, Mexico), elsewhere six months.

Address advertising inquiries to: Richard Mulligan, 74 Main Street, Newtown, CT 06470. Telephone (203) 426-3277.

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ISSN 0270-1146.

Second class postage permit at Greenbay, WI and additional mailing offices.

Address editorial material to Sarah Bodine, Editor, 1 Penn Lyle Road, Princeton Junction, NJ 08550. Unsolicited manuscripts and photos will be handled with care, but the magazine assumes no responsibility for them. All material must be accompanied by a self-addressed, stamped envelope. The opinions expressed in *Metalsmith* are those of the authors and do not necessarily represent those of the trustees of SNAG or the staff of *Metalsmith.*

Metalsmith is partially supported by a grant from the National Endowment for the Arts.

Printed and typeset by Eastern Press, New Haven, CT.

Postmaster: Send address changes to *Metalsmith,* 2849 St. Ann Drive, Green Bay, WI 54301.

Letters to the Editor

Many letters received are of interest to the entire readership. Unless stated otherwise, all letters received may be included in "Letters to the Editor." Address letters specifically for this section to: Sarah Bodine, Editor, *Metalsmith,* 1 Penn Lyle Road, Princeton Junction, NJ 08550. Letters should be signed and a return address given. We reserve the right to edit for publication.

Dear Editor:
I was pleasantly surprised and deeply pleased to receive the copy of *Metalsmith* through the thoughtfulness of Judith W. Frosh, of Bethesda, Maryland, featuring items of jewelry made by Margaret De Patta (Spring 83). For a number of years I had the pleasure of working for De Patta, introducing new and attractive styles of gem cutting. Several other interesting items are illustrated in my book *The Art of The Lapidary,* Bruce Publishing Co. With thanks for the pleasure received through your fine tome.
—Francis J. Sperisen

Dear Editor:
These comments are written in response to Deborah Norton's "Opinion" column in *Metalsmith's* Summer 1983 issue, regarding the exhibition, "Ancient Inspirations/Contemporary Interpretations." Ms Norton's review brings neither valid information to your readers nor credit to your magazine. Her unwarranted attack on the professionalism of the individuals involved with the exhibition does not merit a reply. Her comments on the exhibition are also totally out of step with every other opinion that has been expressed about this widely traveled and appreciated show. I feel I must set the record straight for the readers of *Metalsmith* and offer here some background information on the exhibit and comments by national and regional magazines and newspapers, museum directors, VIP visitors and the artists themselves. The exhibit was organized by this curator. It opened in Binghamton, New York in August 1982, and is traveling through the country for two years.

"Ancient Inspirations/Contemporary Interpretations" used a museological approach to present crafts in the context of the history of art. Rather than exhibit contemporary objects by media, which is the more traditional mode, crafts are presented in relationship to ancient art. The installation of the exhibition includes photographs of ancient objects to which the works in the exhibition relate, as well as text panels introducing each of the four thematic divisions: Metaphors/Expressions of the Natural and Supernatural World; Architectonics/Expressions of the Built Environment; Vessels/Containers of Information; and Ceremony/Expressions of Myth and Reality. Objects placed in one of these categories often shared properties with those in another. In fact, it is common that an object can be traced to more than one of these themes linking art of the past with that of today. The thematic groupings were made on the basis of each object's most prominent attribute and serve as a focal point for discussion.

The exhibition was seen in its entirety in Binghamton at Roberson Center for the Arts and Sciences; Albany at the New York State Museum; Los Angeles at the Craft and Folk Art Museum; and can be seen in toto in Jackson at the Mississippi Museum of Art from January 20–March 11, 1984. This is the last stop on the tour. Condensed versions were arranged for Alfred University, Alfred, New York; Skidmore College, Saratoga Springs, New York; The Hyde Collection, Glens Falls, New York; and Parsons School of Design, New York City, due to space limitations in these galleries. In these condensed exhibitions, however, the theme of the exhibition is kept basically intact. As many of the artists as possible are shown in each location. The text panels are always used, but in some instances the photo panels illustrating the ancient objects have to be omitted. The directors of the host institutions have been generous in their praise as have leaders in the craft field, including Caroll Lindsay, Director, New York State Museum; Edith Wyle, Director, Craft and Folk Art Museum; Richard Kavesh, Director, Alfred University Art Gallery; Joan Mondale; and Sybil Robbins, Craftsmen's Gallery.

Many people have become familiar with the exhibition through the catalog which has been widely distributed—to museums, galleries, libraries and collectors. The catalog consists of 108 pages, with 150 black-and-white photographs and eight color plates. A page is dedicated to each artist, which includes photos of their object, themselves, a brief biography and a statement on how their work relates to the theme of the exhibition. In addition, there are two essays, one by Dr. Margaret Conkey, Anthropologist, on ancient and primitive art, and one by this Curator on the contemporary works in the exhibition. Enthusiasm for the catalog has been expressed by Kitty Carlisle Hart, New York State Council on the Arts; Julie Jones, Curator, Primitive Art, The Metropolitan Museum of Art, New York; Ruth Katzman, Image Gallery, Sarasota, Florida; and Joan Wahl, Sunshine Artists/USA, among others.

In addition to the exhibition and catalog, a series of symposia were held at Roberson entitled "Perspectives." "Ancient Inspirations/Contemporary Interpretations" in particular and contemporary crafts were discussed from different points of view. There was "An Evening with the Curator," "An Evening with the Artists" and "An Afternoon with the Collectors." Some of the individuals who shared their knowledge in these informative programs were Wayne Higby, Sam Wiener, Robert Ebendorf (participating artists); Lloyd Herman, Director, Renwick Museum; Sybil Robbins, Craftsmens' Gallery; and Robert Pfannabecker, private collector. All symposia were well attended and highly successful.

This curator lectured at many of the locations where the exhibition was installed, as well as at one location where it was not—the Bezalel Academy of Art in Jerusalem, Israel. At the invitation of the Metalsmith Department there, we showed slides of the works in the exhibit simultaneously with slides of ancient and primitive works to which they related. The response from the large audience made up of faculty and students from the school was most gratifying. There was audible appreciation as we spoke, and the language barrier dissolved as the images made their statement on the screen. Arie Ofer (head of the Metalsmith Department of Bezalel) has written of his appreciation for the opportunity to have this presentation there. We are told the talk was reviewed in the Jerusalem paper.

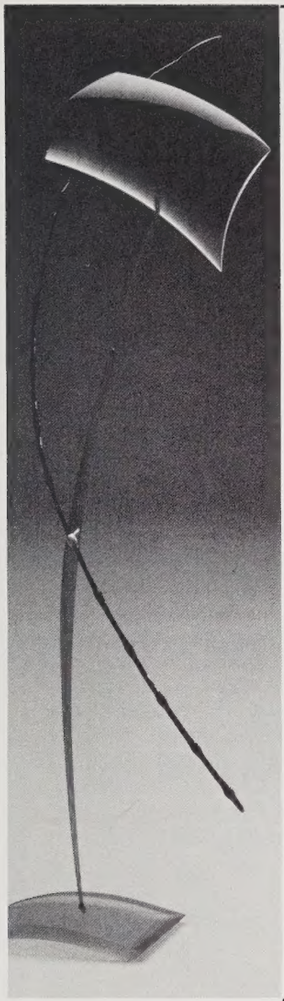
The exposure for the artists was excellent. They have appreciated the way the whole project has been handled and we have been in constant phone and mail communication. Several have informed us of being invited to participate in major national exhibits and some are being included in important publications. Numerous sales and commissions have resulted as well, an unexpected but much welcomed phenomenon.

Roberson Center has obviously made a major commitment to contemporary crafts. We have organized this major exhibit, published an extensive catalog, traveled the exhibit and publicized it. In addition we have purchased several works from the exhibition for our permanent collection and have commissioned two others by artists in the exhibit.

Personally and professionally I am committed to fine crafts and look forward to continuing my research and developing more exhibitions in this field.
—Roslyn Tunis

Roslyn Tunis has been Curator of Art at Roberson Center for the Arts and Sciences for more than a decade. Her background is in Art History and Anthropology. Ms Tunis has organized numerous exhibitions in a broad range of disciplines—ancient, folk, Native American, as well as contemporary. Catalogs have been published in conjunction with these exhibitions. Contemporary crafts have become an important area of research in her work—especially the consideration of crafts within the framework of art, past and present. Ms Tunis has lectured widely and has served as a juror for major regional and national craft and art shows and exhibitions.

The illustrated catalog from this exhibition is available for $11 plus $1.50 postage from: Roberson Center for the Arts and Sciences, Attn: Roslyn Tunis, Front St., Binghamton, NY 13905-4779.



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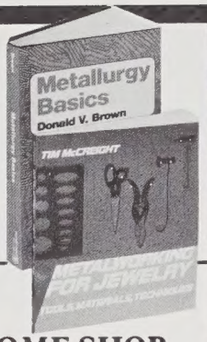

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Master Metalsmith **Irena Brynner**

The following text is edited from two interviews taped in 1982 with Irena Brynner, one by Dorothy Van Arsdale in Florida and one with Julie Schneider, a graduate student from Tyler, in New York City.

I was born in Russia and lived there until I was 11 years old. Then I went to Manchuria, finished high school and was sent to Switzerland to study art at the university. At the end of 1939 I returned to Manchuria, which I considered at that time my home, and continued working mainly in painting with private tutors. In 1944 we were forced out of Manchuria by the Japanese, because my father, who had died in 1942, had represented British and American interests in China during the war, and they decided he had been a spy. We left for Peking where we stayed until 1946, when we moved to San Francisco. There I worked for two years intensively on sculpture in clay and stone.

Since we had left behind everything we owned in China, I had to begin to consider how I would earn my living. I had been rather spoiled until then. I tried giving sculpture lessons in three different Catholic schools, because they were private schools and I had no teaching credentials. But the schools had practically no facilities nor tools. I was earning so little and had such difficulties that I started seriously thinking about doing something besides sculpture. I had painted portraits, so I could have chosen to be a society portraitist and probably earn a very good living, but it did not appeal to me. So I started looking in the crafts. At first I thought the natural craft for me would be pottery, since I had worked with clay, but very quickly I felt much too restricted by the vessel form. By chance at this time I saw a contemporary piece of jewelry by Clair Falkenstein which fascinated me because it was so much like sculpture. I felt here, finally, was an area where I wouldn't have to compromise. I would make sculpture in relation to the human body instead of sculpture in relation to space or in relation to architecture.

I could not afford to take jewelry making lessons, so I started working with Carolyn Rosine as an apprentice. I worked with her for two months in the mornings and taught in the afternoons. Working for her involved much tedious sawing out and polishing which did not teach me anything. And then before Christmas I was introduced to Franz Bergman, a jeweler and ceramist who needed help making his jewelry orders while he was doing ceramics. I began to work for him and he showed me step-by-step the whole process. He worked next door on his ceramics and left me to do the entire jewelry piece. He paid me half of what he would get for his things, which was also very rewarding. This contact with him taught me a lot and enriched my contact with jewelry. Although I worked only 12 hours with him two or three weeks before Christmas, this was a true apprenticeship.

Irena Byrnner's book, *Jewelry as an Art Form,* was published by Van Nostrand Reinhold in 1979.

Left to right: 1950, *Cufflinks,* silver; **1951,** *Pin and earrings,* silver and pearls; **1952,** *Pin,* silver and topaz; **1953,** *Pin,* gold, amethyst and inlay of sand, gold filings and epoxy—this piece shows the strong influence of Margaret De Patta

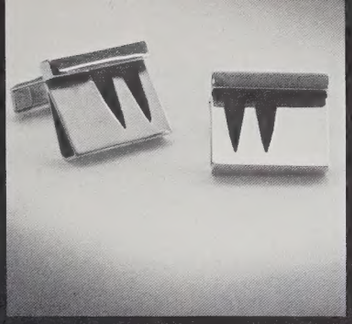
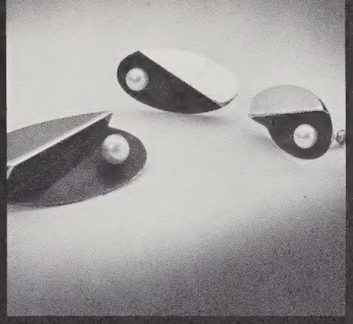
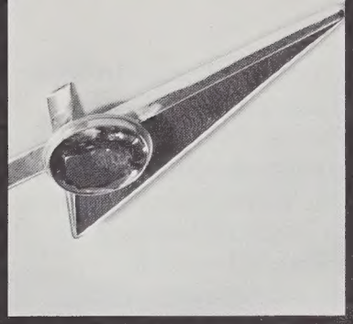
Left to right: 1956, *Ring,* gold with matrix opal; **1957,** *Earrings,* gold with pearls; **1958,** *Necklace,* gold rutilated quartz by Sperisen and emerald crystal; **1959,** *Necklace,* gold with opals

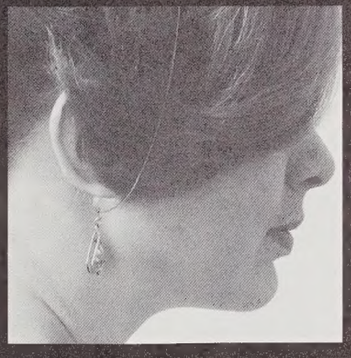
Left to right: 1960, *Sputnik Necklace,* 18k cast gold with tourmilated quartz; *Necklace,* gold with emerald crystal; **1964,** *Choker Chain,* cast gold; **1965,** *Head Ornament,* forged gold with citrine

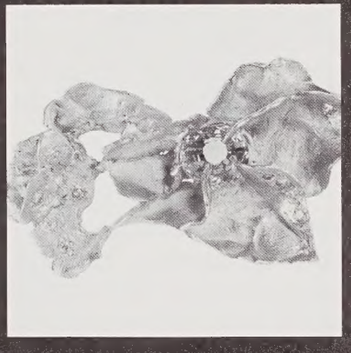
Left to right: 1967, *Wedding Ring,* cast gold; **1968,** *Flowers,* gold, pearls and garnet, 2″ h.; **1969,** *Choker,* cast gold and 10 mm pearls; **1970,** *Pin,* cast gold showing fingerprints, pink sapphire and pink diamonds

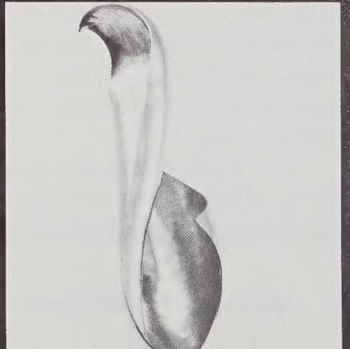
Left to right: 1971, *Necklace,* 22k forged gold with green and gold diamond; **1973,** *Collar,* water-welded 18k gold; **1975,** *Necklace,* cast and forged 18k gold with three baroque bronze-colored pearls; **1977,** *Necklace,* forged and welded 18k gold with 16 rubies

Left to right: 1978, *Brooch,* 18k cast gold and pyrite; **1978,** *Necklace,* cast gold with meteorite-maldovites and green diamonds; **1979,** *Necklace,* sterling silver, 18k gold and Chinese cultured fresh-water pearls; **1980,** *Tenderness* sculpture, forged pewter







After that I went to Adult Education classes to learn more about the practical side of buying materials and tools and I started working at home in a very primitive way. A Bunsen burner was my soldering equipment and I used an ironing board to solder on. In this way I started learning, really by trial and error. I started working by myself in January of 1950 and in March I went to Casper's, one of the swankiest gift shops in San Francisco. I took my first cufflinks and pin to the manager Bob Hight and told him I had worked for Mr. Bergman. I said I had made jewelry previously as a hobby and that now I wanted to sell my pieces. Would he be interested? After looking over the work, he told me that my pin was horrible but that the cufflinks were very nice and if I had any more could I bring them in. I quickly said, sure, sure, and rushed home to make some more. Another shop, Nany's, helped many, many craftsmen; they started taking my things and then Fraser started taking things. Although it wasn't easy, I began to earn a bit of a living this way.

I was really self-taught in jewelry. As I could afford better tools and equipment I learned their capabilities. I think that my work differs from that of American and European craftsmen because I had no traditional background. If I wanted to use a stone, I had to invent how to set it.

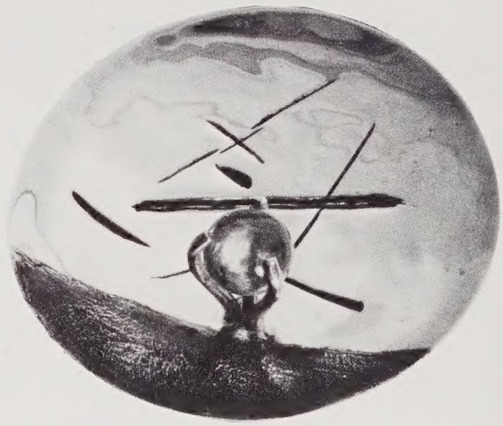
In San Francisco, there was an open-air art show every year, subsidized by the city. It was open to all craftsmen. Through this show, I started to have contacts with different jewelers. I met Merry Renk and Margaret DePatta, who was a leading force in the metal community. There was also Byron Wilson and an Italian jeweler, Peter Maccarini. We became concerned about the quality of work at those open-air art shows and started thinking about forming an organization to promote professional standards and metalsmithing education. In this way the Metal Arts Guild was founded with a small group of about eight to 10 people. By 1951 we had started to hold serious meetings and make up by-laws.

This group was marvelous because of the guidance of Margaret DePatta. Her husband, Eugene Bielawski, was also a metalsmith, and they both were trained in Bauhaus methods at Moholy-Nagy's School of Design in Chicago. It was they who guided us in all our efforts. However, our discussions were lively, as we did not always agree on the purpose of jewelrymaking. With her Bauhaus background, DePatta believed that every design you made should be justifiable, practically mathematical, logical as opposed to emotional. I, on the other hand, work very spontaneously, very emotionally with no anticipation. I acquired techniques as I went along. I remember, for example, that it was a fantastic experience for me the first time I hammered a gold wire flat. All of a sudden I discovered that it was a spring. I bent it and immediately realized I could make necklaces that sprang open instead of having a catch. However, like Margaret DePatta, I was at first very influenced by modern architecture. My things were all very geometric and stark. I had a very close friend who was an architect and I think that had something to do with it also. The first technique I acquired was constructed jewelry, which lends itself to a tailored style.

As I went along, I started discovering new techniques. Classes in holloware given by the Metal Arts Guild were particularly useful, as they taught me about

1955, *Pin,* forged, domed silver with rutilated quartz sphere held by three prongs

Right 1973, *Necklace,* forged and welded 22k yellow gold with 18k white gold appliqué



the stretching properties of metal. My work started to have more curved surfaces, and little by little it became softer, more three-dimensional.

Five years after I started working in jewelry, in 1955, I started teaching adult education classes, three nights a week, which as it turned out taught me a lot. I remember at the first class an elderly man brought in an awful ring. I began to criticize: this is bad and that is bad, when all of a sudden the man said, "I'm mighty proud of this ring. It's my first ring." All the words got stuck in my mouth and I said, "Yes, it is very nice, but I am sure that the next one will be much better." This started to teach me about relationships with my pupils. In those classes I really learned a lot about technique because I had to think fast and solve so many different problems, not just my own problems. I think I had classes that varied from 14 to 36 people, but I tried to teach each person individually. I will always cherish that experience because I found through teaching that each individual has the potential and a tremendous desire to create something. And only shyness or insecurity keeps them from pouring out this creative feeling. And sometimes I felt that in teaching I even had to cheat a little bit and make them believe that they could be open to this feeling. I always started the class with a simple band ring, because it taught them to cut out, measure, saw and solder. It required lots of very simple processes, and if you force a person to finish that ring really well, all of a sudden they see practically professional work in front of them. And even if you help them a lot, if you manage to make them believe it is their own effort, it is like you have opened a faucet. All of a sudden, the creativity begins to pour out.

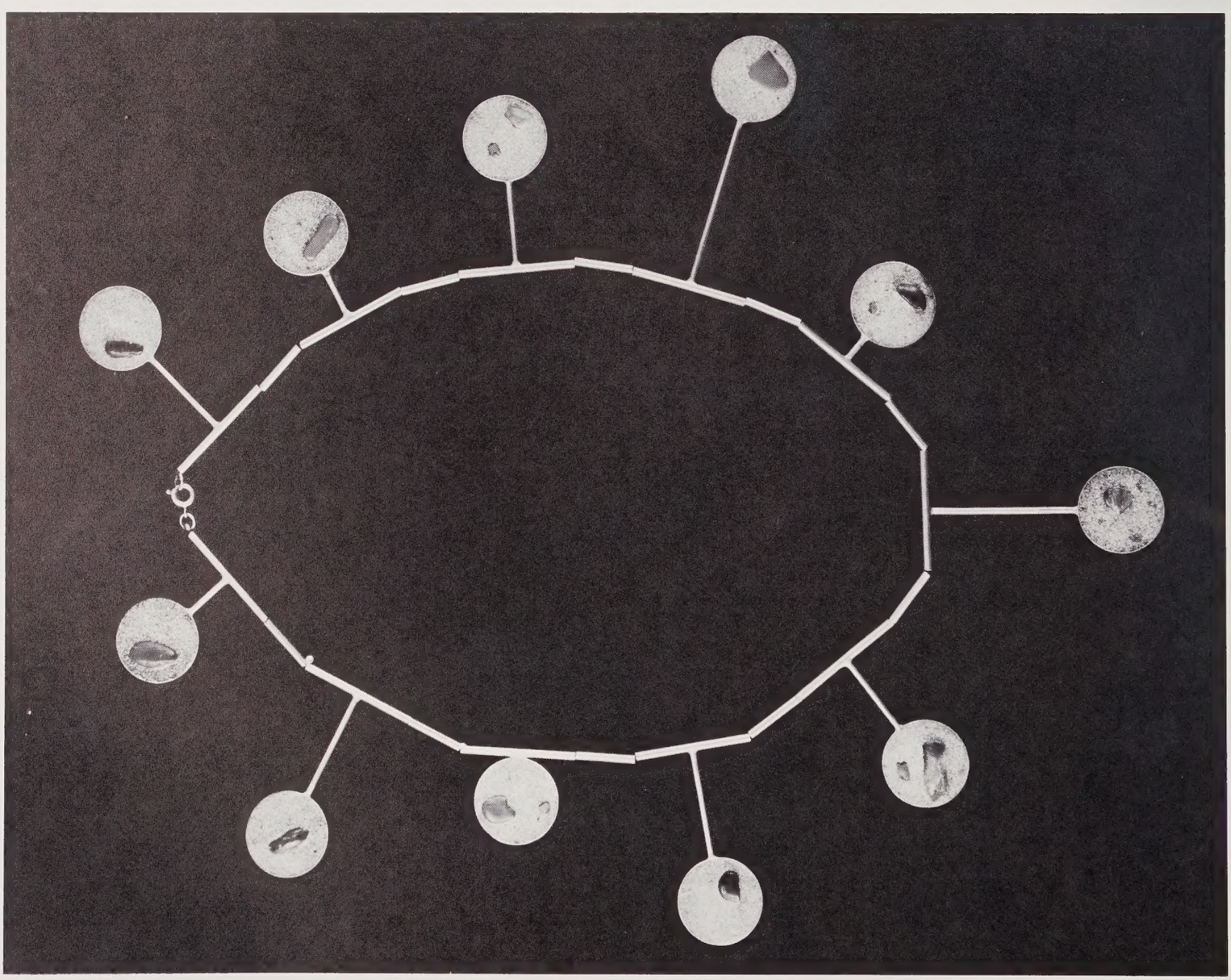
In 1956, for the first time, I went to New York. I was already selling at Georg Jensen, but I wanted a one-man show. Conrad Brown, an editor at *Craft Horizons,* introduced me to store buyers and gallery owners. Finally I found a little jewelry office of conventional, not contemporary, things, called Walker and Eberling. This was the Walker whose brother founded Walker Art Center in Minneapolis. The office was on the eleventh floor on East 59th Street, and they agreed to give me a show that autumn.

During my trip I saw an exhibition at the Museum of Modern Art of Antonio Gaudi, the Spanish architect. Everything was sort of Art Nouveau and very, very baroque, very crazy. That show struck me with such force; I didn't realize it at the time, but my work started to change. I had also already realized that New York was the place I had to live. So I returned to San Francisco and told my mother that, even though we had built a lovely contemporary house on Russian Hill just two years previously, we had to move to New York. I just couldn't stay away. In two weeks' time I had found an apartment on West 55th Street in which we lived for 17 years. As soon as I started to work there people began to come to see my things. I remember how surprised I was when the first person picked up a ring and said, "But that makes me think of Gaudi architecture." It was a complete surprise to me, although I believe that what surrounds you, what strikes you, in your creative process, is absorbed and little by little is reflected in your work.

Another factor in my transformation to more organic work was the situation of my studio in our apartment. As we lived in a brownstone, I had no legal right to bring in, say, an oxygen tank, for soldering equipment, as I had had in my own house in San Francisco. There I had been working with oxygen and gas so I could do very fine soldering. So I had to revert to presto-light tanks, which were also illegal, but which I smuggled in. However, this equipment is not made for soldering, so I could not do such fine work. I started to cast pieces using the lost-wax process. This period when I did nearly exclusively wax casting was wonderful because it changed my outlook on the process. In Europe, people look upon casting as commercial. In America, it is considered a very creative process, and I learned lots of new, fantastic things because there is no limitation to what you can do with casting. I believe that wax work should never be done to resemble a constructed piece. You should use all the factors characteristic of the wax. Anyway, this contributed also to my changing style, because constructed work suggests a very stark style and wax work leads you into a much softer and looser form. I also believe that the fact that I lived in Manhattan, surrounded by all the stone and concrete, forced me to appreciate natural forms. At this time I did lots of close-up photography of vegetables and plants.

Soon after I moved to New York I started teaching one night a week at the art institute connected with the Museum of Modern Art and held in the basement of the museum. The school accepted both adults and children

1953, *Necklace,* silver with inlay of silver filings and beach stones

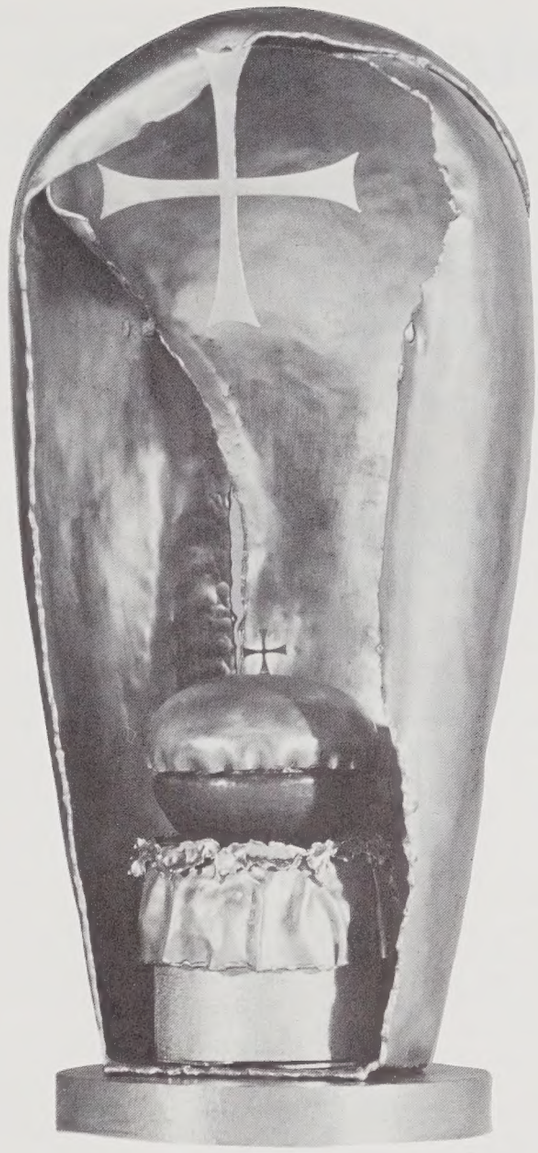


and they gave me a class of children. My teaching experience in San Francisco had been so rich that I always wanted to teach more. Seven years later the school was discontinued because the museum needed storage space. However, the nucleus of 10 people from my group continued meeting in my apartment. I had no place to work so they brought their pieces either finished or semi-finished. Each piece was passed around and criticized, both technically and design-wise, and then the work came to me and I summarized. Sometimes we complemented those sessions with slide shows. It was really a marvelous relationship, and now after some 30 years, every time I come to New York we have a reunion.

In about 1969 I discovered the Hanes water welder equipment for electronic soldering. With this system there is a tank of distilled water with electrolytic liquid which the electricity goes through and divides into oxygen-hydrogen gas. You guide this gas through a booster with methyl alcohol and borax to get a clean, fluxed flame, which is very hot—to 6000° F. The flame can be so small you can barely see it or it can be rather large and long. When you solder a piece with ordinary equipment, you have to heat the whole piece to solder it together and you always use solder with it. With this soldering equipment you can spot weld. To make a good connection all you do is touch an area with the flame and it is welded. This both saves time and also gives a nice rolled edge, just like in the wax. Actually, because of this water welding method my work continues to resemble wax work. Just as the wax is liquid, so the metal becomes liquid with such a hot flame. This is exactly the same technique as used in steel welding. So I started using forging and welding, and the plant forms, the leaf forms, started to find a bigger and bigger place in my work. Maybe it's the time; maybe it's our age that does it. As I look at Merry Renk's work, I find her things have also become more organic, more plantlike.

In the 1970s I moved to Switzerland. Here I set up a studio but found that people were very conventional and reluctant to embrace modern work. I began to show my ikebana—Japanese flower arrangements—at a large ceramic museum, Musée du Petit Palais, in Geneva. After this show, the director offered me more space to include my gold jewelry with a large ikebana display. A curator of the Geneva City jewelry museum, Musée de l'Horlogerie de la Ville de Genève, also invited me to show my work. I prepared for two years for what became a 30-year retrospective of 135 pieces. Seventy-nine pieces from this show went to an exhibit in 1979-80 at the Smithsonian Institution in Washington.

When the price of gold went up in 1980, lots of people were reluctant to acquire gold jewelry. They wanted something less precious which they would feel free to wear. So I started to use silver as the base of a piece and to decorate it with gold. Using silver was somewhat ironic to me because in the very beginning I worked in silver and pieces sold for $12 or $14. That's how we all started. Now the value of the creative work is much more important than the material cost. In my current work I also play a lot with colors of metals. I take sterling which I oxidize black, and fine silver, which I leave white, and gold, which makes a very beautiful combination. Adding the colors of the stones enriches it more. I use lots of pearls which blend nearly entirely with fine silver and sometimes reflect a little of the gold color.



1982, *Tabernacle,* 2mm-thick pewter, copper and vermeille (gilded silver), 50 cm. h.

As to the future—I live my life as I read a book, page by page, and fortunately, sometimes the pages turn so fast I have a feeling I don't have time enough to read it thoroughly. I planned to go for a year to work in Paris on sculpture. I had been doing some medium-sized sculpture and lots of forged pewter, which gives an entirely new style to the work. I would still like to make bigger work. However, in 1982 I was asked to show my jewelry in a number of places in Switzerland, including Atrium Gallery in Basel and Florissan Gallery in Lausanne, and in a show in Yugoslavia, so I have been concentrating on making new jewelry pieces. Also, this year I completed my most important ecclesiastic commission of a tabernacle for a Greek orthodox church near Geneva.

But New York continues to attract me—the hustling, bustling life. New York is the only place where I can honestly say I can feel at home. I go away for two years and when I come back I go on the street and I have the feeling that I never left. I hope to return to New York to set up my studio and live in 1984.

Metalsmithing
As Seen by Gallery Directors

by Deborah Norton

In the world of fine art, galleries wield enormous power. Galleries such as Castelli, Knoedler and Marlborough, through the artists they choose to show, dictate which artists and styles are "in" or "out," which work will receive the most publicity, thus establishing the artists' reputations, and, ultimately, which pieces will be sold to museums and private collectors willing to pay top dollar for paintings and sculpture. As William Rubin, director of painting and sculpture at The Museum of Modern Art, said in an article in *The New Yorker* magazine "The history of modern art would have been very different if it hadn't been for the work of some enlightened (gallery directors)."

Currently in the craft world, this is not the case. Reputations of crafts artists tend to be made through nonprofit institutions such as universities, craft schools, museums, grant programs and journals. However, as the crafts population increases, with more and more practitioners trying to make their livelihood by selling their work, rather than teaching, this situation is likely to change. I feel that in the future it will be galleries that will be the arbiters of taste in crafts. They will decide which artists and which styles will thrive, and they will create the history of crafts in future decades. Consequently, it is important for metalsmiths, as well as collectors, to be aware of what the directors of the more outstanding metalsmithing galleries are thinking.

To undertake this survey I first compiled a list of galleries that either show metalwork exclusively or have a strong emphasis on this craft. To them I sent a questionnaire to solicit the directors' ideas on such topics as emerging trends, changes taking place within the craft, conflicts inherent to metalsmithing, quality of today's metalwork and the education of metalsmiths. The responses provide a telling profile of each gallery, stressing the similarities and differences between them. Those responding to the questionnaire (with the director's name in parenthesis) were: Artwear, New York City, established 1977 (Robert Lee Morris); Concepts, Carmel, CA, 1977 (Douglas Steakley); Contemporary Artisans, San Francisco, CA, 1978 (Elaine Potter); The Craftsman's Gallery, Scarsdale, NY, 1973 (Sybil Robbins); Etienne, Camden, ME, 1975 (Etienne Perret); Graham Gallery, La Jolla, CA, 1980 (Scott Graham); La Jolla Gallery Eight, La Jolla, CA, 1978 (Ruth Newmark); Mindscape, Evanston, IL, 1974 (Ron Isaacson); and Precious Objects Gallery, Los Gatos, CA, 1979 (Walter Soellner).

All the gallery directors see metalsmithing in a state of flux and feel that this constant evolution is exciting and positive. Some galleries feel that they are influential in the development of new styles and trends, while others feel it is not their role to try to influence the artist. Robert Lee Morris boldly states, "Artwear and the five to six years of constant publicity, has definitely influenced the look of metalwork." Etienne attributes the change in the work shown in his gallery as "mainly due to my asking more of my designers." Douglas Steakley seems to feel his influence more subtly when he says, changes within Concepts "reflect the type of jewelry we choose to show, but I also think the designers have changed their attitudes."

However, Elaine Potter, in discussing developing trends, is satisfied with "whatever the artist wants to do, as that is the thing that is most successful if they do it well." Walter Soellner adds, "Whatever happens, happens—that is the joy of life. . . . There is nothing right or wrong, positive or negative, about discernible trends." Sybil Robbins's unwillingness to influence trends almost strikes me as a trend in itself. She prefers "the notion that each person follow his own inclinations. I'm not sure I like to see too many trends develop."

But regardless of the source of influence, what are these trends that directors see emerging within their own galleries and within metalsmithing in general? The three most often mentioned are towards greater sophistication, new materials and more technical prowess. Ruth Newmark of La Jolla Gallery Eight observes that work has become "more sophisticated, less organic." Ron Isaacson of Mindscape attributes this increase in sophistication to "more concern for technique and experimentation." To Etienne this sophistication comes with designers' increased knowledge over time, "of the essence of jewelry and what people appreciate in it." Steakley attributes it to the rise in sophistication of the people judging museum and juried exhibitions. "Before (seven to eight years ago), designers made large and sometimes funny-looking objects that were designed for these exhibitions. American jewelry designers are passing through adolescence into a more mature phase."

Conversely, Robert Lee Morris reports that "work has gotten larger in scale, cleaner and more graphic." Artwear no longer shows jewelry that is decorative but rather work that has a "pure approach to design." He is supportive of the trend towards more complex, intricate and precise work. Ruth Newmark sees jewelry as becoming more humorous, less serious. Contemporary Artisans' Potter is pleased to see "more concern with developing technical ideas and following inner instincts."

Numerous galleries mentioned the use of new materials such as titanium, tantalum, plastic and paper as a discernable trend. At the two extremes, Elaine Potter would like "to see more use of nontraditional metals and stones," while Etienne has found that "there are no materials that are superior to gold, platinum and precious gemstones." Morris would "like to see more work done in ferrous metals, stainless steel and gold, mixed." Although Scott Graham considers titanium a "flash in the pan," Newmark and Steakley agree with Mindscape's Isaacson that "it depends on the use of the materials, not the materials themselves."

Sybil Robbins of the Craftsman's Gallery sees the use of "new" techniques such as mokume-gane and other Japanese metalsmithing techniques, as well as the use of new materials, as commendable as long as they are not taken up by too many people. Then "they seem ordinary and routine to the viewing public." There is also a danger "that the use of technique or material is only 'trendy' and has no esthetic validity or quality in design and workmanship."

As would be expected, innovation is valued by all the galleries, but often with qualifications. While Mindscape, Gallery Eight and Concepts are wholeheartedly on the side of innovation, Artwear's Morris, along with Etienne, "would like to see more nontraditional and innovative work done based on the great tradition of integrity and quality craftsmanship of the ancient goldsmith." The other galleries take more of a laisser-faire attitude, exprressing no preference for either innovation or tradition, but rather for "whatever the artist can do well," as Contemporary Artisans' Potter says.

Although one often hears metalsmithing students debating the issue of wearable versus nonwearable jewelry, this is not something that concerns galleries. Most agree with Walter Soellner of Precious Objects that "It's irrelevant. If it's not wearable, it's not jewelry." Steakley, backed by Robbins and Etienne, takes a more tolerant attitude. "Nonwearable jewelry is fine, so long as it is done as an exercise in composition or something else. It does not have much of a place in a gallery. . . . Often things done in school by students are totally valid in this environment,

Recent graduates "are getting better all the time, really much improved compared to the presentation we saw four years ago."
Walter Soellner

There is a danger "that the use of techniques or material is only 'trendy' and has no esthetic validity or quality in design and workmanship."
Sybil Robbins

"American jewelry designers are passing through adolescence into a more mature phase."
Douglas Steakley

"It is good to be influenced by fashion trends in order to stay current and not repeat what has already been done."
Robert Lee Morris

but these people must realize that these pieces will find little acceptance elsewhere."

A more subtle issue that does concern many gallery directors is the conflict between interesting pieces that are jewelry and interesting jewelry. Although Potter and Soellner are in agreement with Robbins when she remarks, "I don't look for conflicts in any of these situations. Each artist ought to make what interests him," others disagree. Steakley and Morris share Etienne's attitude that "effort should be put into interesting jewelry. I am not really interested in sculpture that can be hung around the neck." However, to Isaacson, "Interesting pieces that are jewelry is the direction we would like to see. It encourages individuality and experimentation and is not dependent on trends." Although not quite as emphatic as Isaacson, Newmark finds "there are times when interesting pieces . . . need to be modified to make them more wearable, but I like the attempt to design new forms."

Many directors have strong ideas concerning outside influences on metalsmiths. Like Morris, Etienne is disappointed that "very little influence of fine arts is felt in jewelry. My feeling is that very few jewelers go through the process of an artist." Conversely, Potter is pleased with metalsmiths' lack of interest in fine arts because "painting today is awful and sculpture has become nonhuman." Steakley thinks "that in a period of strong design, such as Art Nouveau or Art Deco, all media reflect the same antecedents. I would like to see such a movement occur now." Graham hopes that metalsmiths are "influenced by everything esthetic." Soellner adds that goldsmiths are not only influenced by the other arts but by "television, politics, economics and life in general."

It is commonly agreed that fashion has a strong influence on jewelry. As Isaacson explains, "Jewelry is wearable art and therefore cannot ignore the rest of the wearable industry." Graham attributes this influence to survival, decidedly a positive factor. Most agree with Morris that "it is good to be influenced by fashion trends in order to stay current and not repeat what has already been done." But again, Robbins emphasizes that it is "disappointing to see too many individuals following trends," fashion or otherwise.

This influence of fashion has led to the division of contemporary jewelry into fashion jewelry and art jewelry. Etienne defines the former as "trendy jewelry, meant to appeal to the current fashions," while the latter "is a piece of an artist's conceptualization that can be worn." In the opinion of all the gallery directors, the two complement each other and, as Soellner says, "Both can be good art." Steakley believes "the same type of consciousness goes into both types of work. Fashion jewelry and art jewelry are both aspects of a creative effort and they show that a person is attempting something new and different."

Although all gallery directors are interested in trends and influences, their prime concern is quality, both in design and technique. Fortunately, all have found that the longer they are in business the higher the quality of work they sell. Robbins realizes that "it takes most people quite some time to trust a gallery . . . (both) the makers of the work and the buying public. The longer a gallery is in business, if it achieves a reputation for fine work and fair dealing, the better artists it can attract, and the more people willing to buy high quality (i.e., expensive) work."

To many metalsmiths just beginning their careers, the conflict between quality versus salability is confusing. Gallery directors have little trouble resolving this issue. Steakley observes that "probably 50% of all people in any profession are not very good at what they do and this includes artists and designers. So when an artist considers the salability in his design a lot of the ultimate success depends upon whether or not the person is a good designer, not upon whether or not they have considered salability." Etienne feels "an artist should be concerned with making art. The mistake is that too many consider themselves to be artists." Morris considers the whole issue to be irrelevant. "Salability is like fashion, impossible to predict or control. All quality work combined with free artistic expression should be salable."

Morris's philosophy is reinforced by all but one of the galleries, confirming that the best quality work sells best. According to Isaacson, collectors especially "respond to quality. Midrange pieces—price and quality-wise—have not been selling well. But Newmark admits to having more concern with salability than some of the other galleries. Because of this concern they have avoided nonjewelry metalwork. And although Gallery Eight is drawn to the innovative work now being done, it "fears for its salability."

The conflict that most galleries see is not between quality and salability, but between quality and price. Both Robbins and Etienne agree that it is important for work to be fairly priced. As Etienne points out, "High-quality, low-priced work almost always sells." Graham adds that because "people will often not wish to pay for two weeks of labor" artistic expression can be compromised by the time one can reasonably devote to a piece and still price it so that it will sell.

The last issue addressed by the questionnaire was the education of a metalsmith. The following colleges were mentioned as currently producing the top graduates: Rhode Island School of Design, Tyler, SUNY-New Paltz, Skidmore, Carnegie-Mellon, San Diego State, Purdue, University of Wisconsin and Southern Illinois University. Newmark finds that "certainly people from (the latter four schools) show very professional work." To Soellner recent graduates "are getting better all the time, really much improved compared to the presentations we saw four years ago when we opened Precious Objects Gallery."

However, some galleries are quite dissatisfied with today's graduates. Steakley is "not aware of any colleges that are doing a particularly good job. . . . I have been very discouraged with younger students just out of school. It takes them a couple of years to develop their own sense of design and make a personal statement. I don't think that schools encourage individuality and this is the most important trait in an artist." He attributes the unpreparedness of new graduates to work with galleries to the fact that college instructors often have not dealt with galleries themselves, so they "have no notion of what to tell the students."

Morris thinks "most schools are producing frustrated craftsmen with little design or marketing training. The freshest work is not coming from academic institutions." While agreeing with both Steakley and Morris, Etienne acknowledges that "some schools will be more advantageous to meeting people that will help later in one's career." Isaacson sees a need for business courses within the curriculum.

At one point in the questionnaire Steakley remarks, "There have not been that many (metalsmithing) galleries in the past, so we are not talking about something that has a long history." This lack of longevity is one of the most important distinguishing factors between fine art and craft galleries. Many fine art galleries have been in existence for decades, while the oldest craft gallery in this survey is 10 years old. By the time craft galleries have celebrated their 15th and 20th anniversaries I am certain their importance and influence will have greatly increased. This craft is fortunate to have such intelligent, contemplative and articulate directors in these galleries to forge the history of modern metalsmithing. ■

Tools of the Trade

by William Ard

The word "technology" is defined as the totality of the means employed to provide the objects necessary for sustenance and comfort. Although the average person would probably not put a hammer in the same category with the computer, both are items manufactured by man to manipulate his environment and achieve specific goals. Both are tools. It could even be argued that, in terms of its impact, the hammer is the greater innovation, since it has affected the course of human development for thousands of years. In its place in history, it represents no less a leap in conceptual understanding than a guided missile packed with circuitry.

The invention and adaptation of tools have marked the pivotal points of civilization's advancement throughout human history. From the first sharp stone used to cut a skin, the utilization of mechanisms has extended man's capabilities. Man's tools allowed him to survive in competition with more efficient species and gave him the power to dominate his environment. His tools established the foundations for an industrial society—the discovery of steel itself would have been of little use had we not invented the means with which to manipulate it.

Man's tools have always been his own personal survival kit. His defense against aggression and means of livelihood depended upon the selection and quality of his tools; they were a cherished and coveted commodity. But the sheer number and complexity of tools made since the industrial revolution has led to their almost total depersonalization in our work and daily lives. Today's mass-produced, guaranteed-to-break hand tools and kitchenware can readily be purchased at any hardware store, but the common, utilitarian approach of the production line renders the product uniform and impersonal, bearing scant imprint of its designer.

Pride of ownership in a tool recalls a time when all work, including the manufacture of the tools themselves, was done by hand. A craftsman's tools were collected gradually as he became a master—each for a specific purpose and each by a maker who had a face, a particular style, and reputation. A master craftsman's pride in his own work extended to a pride in owning and using a fine tool.

For generations, toolmakers invariably embellished their work, feeling the job was incomplete without some attention to detail. Decorative filing and engraving on metalwork or the carving and finishing of the woodwork was common—often purely artistic abstractions simply to make the tool a personal and one-of-a-kind object. In this way, the craftsman made a personal statement about his own, or his patron's, views and, perhaps unconsciously, a statement about his society's values as well. Some exceptionally fine tools were signed and dated to identify them for subsequent generations of craftsmen.

William Ard is a metalsmith living in Great Falls, MT

Phillip Baldwin

The blacksmith is an artist who frequently explores how art and pure function meet. Worked in steel, the product of the forge is often a tool, whether a "throw away" punch or chisel for the shop or a fine knife for the kitchen of a most discriminating buyer. The simplest object and a masterpiece will often require identical materials and techniques, the outcome determined only by the hand and the purpose of the artist.

Phillip Baldwin is a master bladesmith working in Springfield, Missouri. His specialty is the delicate process of laminating "damascus" steel. This ancient technique folds and welds together various kinds of steel to produce a material composed of 2,000 layers or more. Finished objects fashioned from this material have an incongruously refined surface pattern that belies their tremendous strength and durability. The technique itself requires considerable skill, but it is the artist's eye for blending graceful line and contour with functional forms that forges the steel into an artful object.

Quick and precise in his movements, Baldwin works with an almost Oriental esthetic. Every tool has a place and the smithy is clean and organized for uninterrupted work. The metal is not simply a lump of steel to be worked by the maker, but a natural material with strengths and limitations, an animate thing that can be stubborn or sweet. "You have to kind of listen to what the metal wants to do," Baldwin says. "All the technical practice in the world won't help you if you're fighting the metal. If you believe that you are imparting some of yourself into the work, your energy, your psyche, then it follows that you should approach it with respect. You might say it's Japanese philosophy, but to me it's natural, self-evident: when you work, do it right, do it with respect."

Phillip Baldwin, *Slicing Knife,* pattern-molded steel, silver/shakudo mokume, ebony grip with sterling silver pins, 15½" l. Collection: David W. Evans

Like most blacksmiths, Baldwin makes many of his own tools, and, while he takes pride in his carefully selected machines, it is the hand tools that engender his most devout attention. "The machines are almost pure function," he says. "I like to keep them working perfectly, but when one dies, in most cases you can just replace it. A hand tool, however, is not a separate entity—it's an extension of my will. It has an almost kinetic power of its own, a power that lies in the potential of what we can do working together."

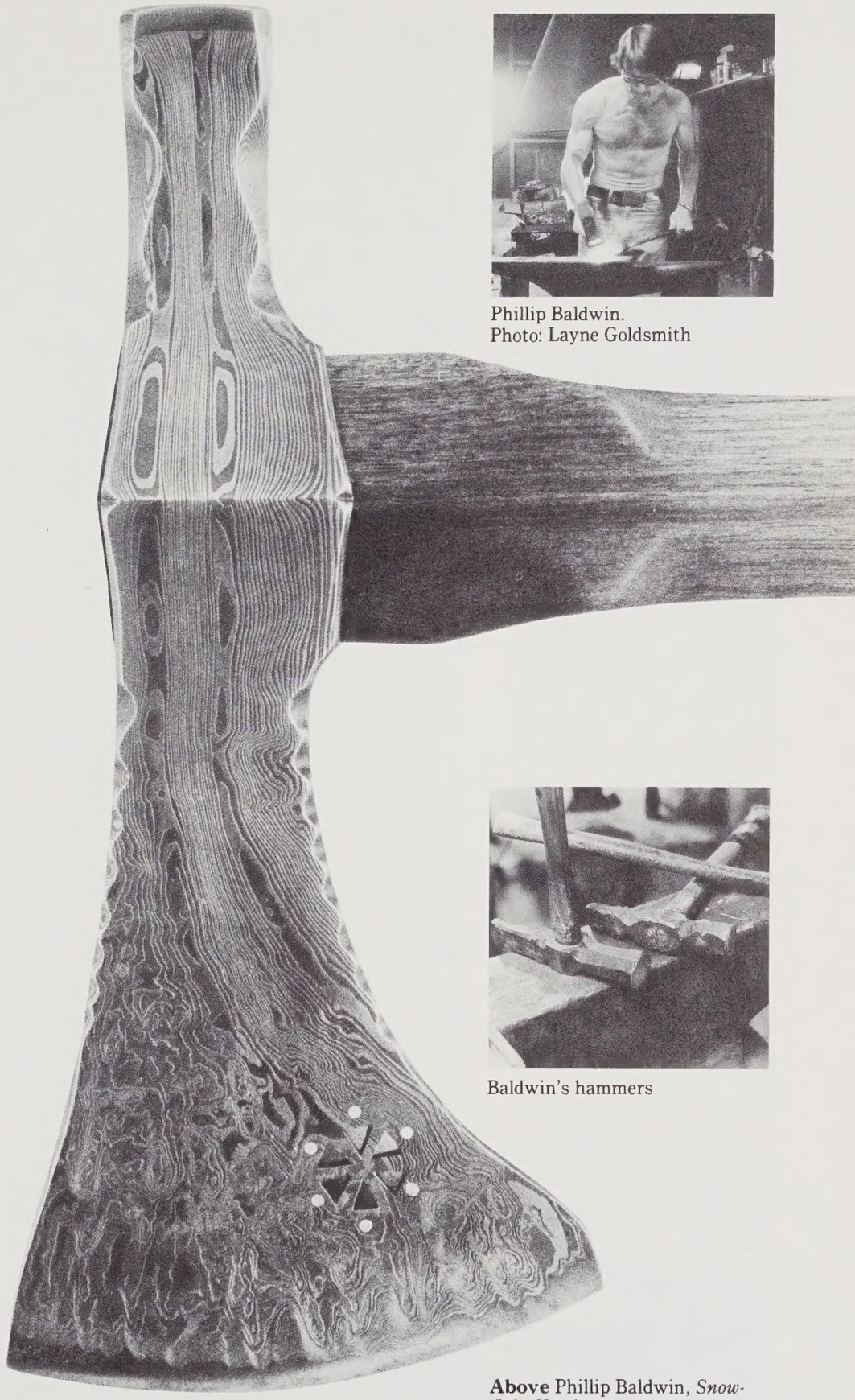
The work from Baldwin's forge is as varied as the medium allows, and the tools he creates form a continuum from the simplest shop tools to exquisite ceremonial weaponry. Of the full range of work, it is his kitchen utensils that most strongly suggest the "art tool." Not as esoteric as the weapons, they are intended for everyday use; yet, not meant for the abuse of the forge, they wander away from a strict sense of form following function.

In the kitchen knives and choppers, Baldwin is open to an audience for fine detail such as intricate damascus, gold inlay and exotic woods. This work falls easily into the category of artwork—blades of such quality and grace that it is easy to forget that they were made for use. But they are superbly functional, designed and tempered to slice meat and chop vegetables—some of the oldest tool functions on earth.

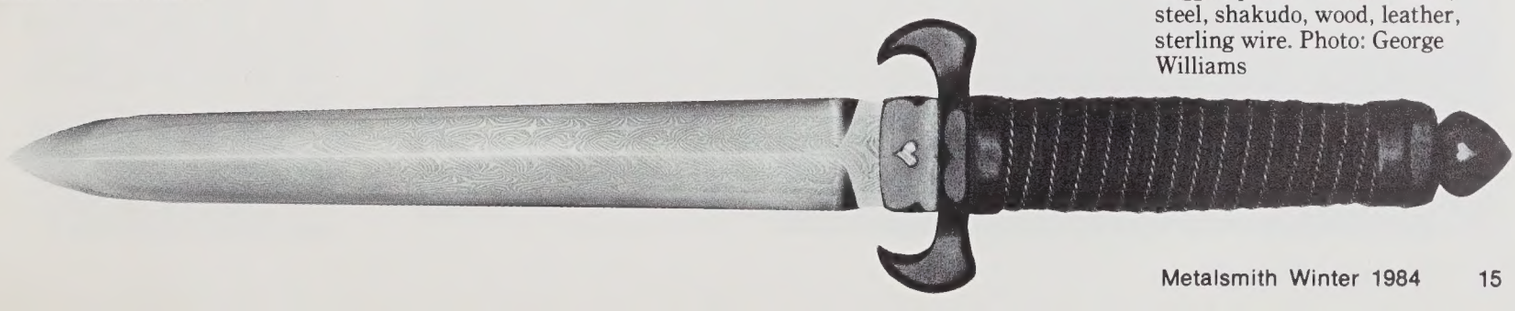
That most of Baldwin's work attains an "heirloom" quality is due to the fact that his are serious tools. Close attention to detail goes into every form, whether intended to be artwork or not. The damascus pieces are subject to severe quality control, and even the smallest fault in a weld between layers consigns the piece to be broken and discarded. Baldwin's special attention to form and finish would never be lavished where there was even a possibility that the blade could be structurally unsound. This kind of care insures the tools' function and their likelihood even to outlive their maker. That they are beautiful to look at and a pleasure to hold simply makes them easier to work with.

Phillip Baldwin.
Photo: Layne Goldsmith

Baldwin's hammers



Above Phillip Baldwin, *Snowflake Hatchette,* pattern-molded steel, gold inlay. Collection: David W. Evans; **Below** *Fortune Dagger,* pattern-molded steel, steel, shakudo, wood, leather, sterling wire. Photo: George Williams



Gary Griffin

The perception of the heirloom tool as a symbol of a more quality-oriented time must be tempered by the knowledge that "handmade" does not always imply any particular skill or esthetic sense. Nor does "machinemade" imply that an object was mass-produced without regard to esthetics. A vast number of machine processes are readily available to the modern craftsman, and an enlightened approach to their use can create objects of immense subtlety and individuality.

As an artist, Gary Griffin uses those very tools and techniques held responsible for the bland quality of the objects found in our industrial society. Griffin is an associate professor in the Metalsmithing Department of the School for American Craftsmen at the Rochester Institute of Technology (R.I.T.). It is safe to say that he has made the esthetic application of machine tool technology his life's work.

Some view the push-button, hands-off aspect of machine processes with suspicion. They see the "instant art" quality of its product as a purely mechanical imprint without intellectual basis. But the physical manipulation of any medium is not automatically artistic; the machine does not *make* art any more than does a hammer or a paintbrush. Griffin feels that the "hands-off" argument is baseless. "The problem," he says, "is the degree of physical separation between the artist and his work—if you take that argument all the way, it turns out the potters are the only real artists because they use few, if any, tools. In reality, you develop a measure of human sensitivity through your tools, whether it's a hammer, a file or a vertical mill. You can feel what you're doing."

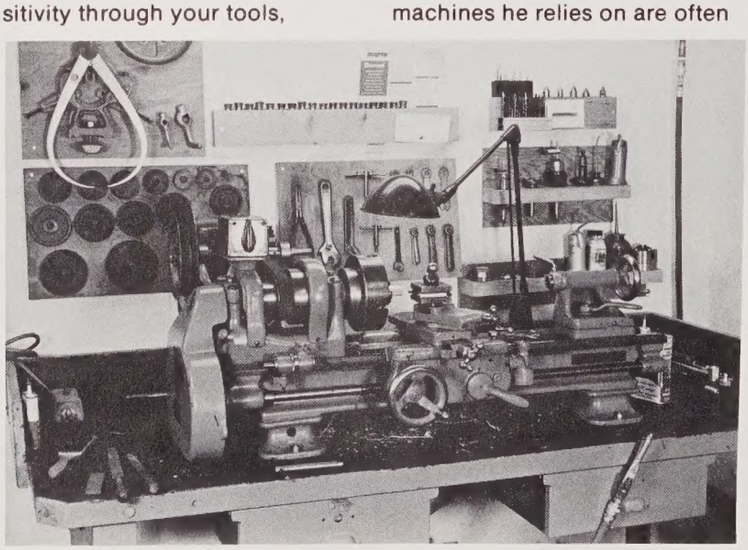
More than in most processes, however, the machine tool leaves a distinct and identifiable fingerprint. The manipulation of the material by machine forces the artist to utilize certain imagery. But again, it is the mind working within that idiom that imposes an esthetic or philosophical value. "The approach to these processes has to extend beyond a superficial application," he explains. "Analysis is very important and an understanding of the essence is primary. In any kind of esthetic undertaking, the premise of the technology as a goal in itself insures the triumph of the means over the end. It is the coalescence of the manufacture of elements guided by esthetic will and the placement of those elements that changes your work into more than simply a record of cause and effect."

His machines and their hundreds of accessories surround Griffin in his shop. He lives within the possibilities and limitations of his chosen tools; yet it is sometimes possible to stretch those limitations by altering the rules. Just as a blacksmith might change the balance of a hammer to make it more personally useful, Griffin designs and manufactures tools that tailor his machines more closely to his specific needs. "Most of these tools are really beautiful," he says. "They're so simple they're elegant—you wonder why somebody hasn't made them before."

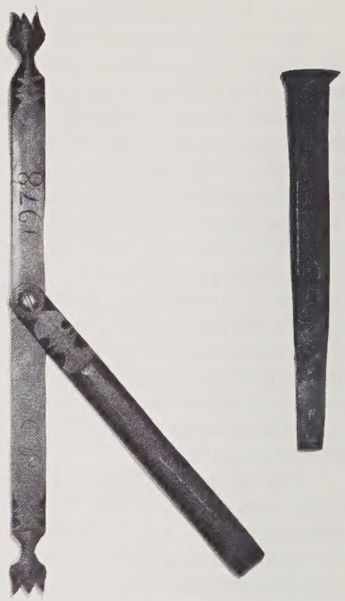
He speaks with an engineer's fondness for simplicity and directness. The tools he makes are basic adaptations, such as an attachment for a lathe that allows him to precisely drill a sphere, or a scoring jig that helps cut material for folded assemblies. Yet the machines he relies on are often huge and complex, completely intimidating to the uninitiated. "The basically scary quality of sophisticated equipment is also a myth. People always feel intimidated, but you can understand any of this with a systematic approach. Once you actually use the machines, it starts to become a routine experience."

The fear of machines and mistrust of complicated technology stem largely from an overly romantic view of what constituted life in a world without machines, he maintains. People who profess a suspicion of anything more mechanical than a pair of scissors think of the preindustrial world as somehow more simple and vital than our own. "There was nothing romantic about preindustrial technology," Griffin argues. "The colonials weren't innocents; they were early industrialists. Simple machine tool technology goes back 2,000 years—by the time our romantic pretechnological era arrived, people were constantly inventing new and better ways of doing things. Their early machines were often complex; some of the contraptions they came up with were amazingly complicated."

What began as a search for ways to ameliorate the craftsman's problems at work has evolved into an ongoing process of development and adaptation. The continuing reliance upon tools of ever-increasing complexity has led to a popular conception that our tools are beginning to get out of hand. Many see technology as an impersonal competitor, a relentless force that is gradually reducing man to being a passive spectator of his own world. On the other side of the coin, of course, is the belief that we have never had a tool so great or so versatile as our present state of technology and that the possibilities in that store of knowledge are unlimited.



Left Gary Griffin, machinery and accessories



Above James Wallace, *Tools*; **Opposite** James Wallace, *Screwdriver,* wood handle by Craig Nutt. Photo: F. Jack Hurley

James Wallace

But what of the toolmaker who does not consciously set out to make art? As any tool lover can attest, a tool does not have to be art to be a thing of beauty. A beautiful tool is one which is really useful, which contributes to the success of the work and receives frequent use. Any nonfunctional embellishment that it has serves only to identify and personalize it, and perhaps say something about the person who owns it.

James Wallace is a practical blacksmith and the director of the National Ornamental Metal Museum in Memphis, Tennessee. With a generous disposition, Wallace has adopted the southern charm of the museum grounds on which he lives. Located on a promontory above a bend in the Mississippi River, the museum radiates a sense of calm, genteel perseverance. Indeed, Wallace fits the environment.

For a smith, toolmaking is an almost daily experience, and a very casual attitude about the work pervades the museum shop. "Since we run a production shop, there's precious little time for academic puttering in making tools. Those I make are for specific purposes or simply for expedience—with between 150 to 200 punches, chisels and drifts in the shop, sometimes it's actually easier to make a new one than to find the one I want!"

A few tools are made for the simple pleasure of making and using them. "These aren't show pieces, but very basic tools. Some of them have a

short twist which does add a little something—it makes them easier to hold, maybe. Certainly it makes no economic sense to forge, file, finish and put a handle on something that does the same thing as a tool available for a buck. There is, however, the satisfaction of making one which is mine."

The museum frequently exhibits bodies of work which illustrate traditional forms and values. Wallace's goal, both at the forge and through the museum, is to explore the relationships between the historical roots of metalwork and its contemporary trends. One good example was an exhibition called "The Parish Collection," which consisted entirely of old hand tools. Many of the tools in the collection were apparently made by the craftsmen who used them; they had a balance and presence which indicated their purpose and were obviously used and well cared for. Others were examples of early mass production and represented the industrial move toward more standardized, unadorned functionalism. The most spectacular tools were those whose care and attention were especially evident in graceful form and simple embellishment. These were the works that evoked a sense of the craftsman's pride.

Wallace uses the museum as a forum for the promulgation of the craftsman's esthetic. As its director, he has seen a huge amount of work, both historical and contemporary; his experience has given him an overview and perhaps made him a connoisseur of hand-wrought metalwork. "One lesson to be learned from these exhibits is that being 'handmade' did not necessarily insure that the tools were either esthetically pleasing or particularly good."

John Pirtle

Technology, like art, is a product of man's intellect and servant to his esthetic. From the moment man realized that wielding a bone would increase his reach, the tool has been not simply an extension of his hand, but an extension of his mind as well.

John Pirtle is an artist living in Seattle who revels in technology; his entire artistic output examines how art interacts with a technological society. A quiet, intense individual, he has an exact and inquiring mind that makes hobbies of such subjects as geology, astronomy and physics. His current passion is computers, and, in many ways, he regards them as the ultimate tool.

Pirtle visualizes an esthetic based on the assimilation of modern technology, information subliminally shared by all of us who live within a technological society. "The springboard of artistic metaphor is not the actual things around us, but the psychic landscape they create," he believes. "We all experience technology as part of a vast collective unconscious; as an artist I attempt to actualize that experience."

Pirtle uses the fruits of technology in his work, from the use of precision machine tools and computer generated designs, to incorporating microprocessors and lasers. Originally interested in electronic jewelry that served some autonomous function besides adornment, he constructed brilliant fantasies of precious metal and microchips. One such piece was a solar-powered bracelet whose miniature infrared lasers functioned beautifully, though without purpose. Gradually, the emphasis of his work shifted to objects with specific functions that could be displayed as adornment. It was in this spirit that *72C-0212*, a personal radiometer, was conceived. "I wanted to design a device that would actually monitor radiation levels, be a hard-core, modern hand tool, and yet be personal and esthetically pleasing enough to be a part of your everyday wardrobe."

As his work became more intricate and functionally complex, Pirtle began to use a computer as his major design tool. The computer's three-dimensional graphic capabilities can program an original concept, examine it in detail, rotate it for a complete view and alter it as necessary before the piece is actually executed. In this way, it is possible to "build" an entire series on the monitor, storing only the versions that have particular merit. Pirtle's Apple II and the jargon of wire-frame programming subsystems, pieces of his "psychic landscape," have become integral to his creative process.

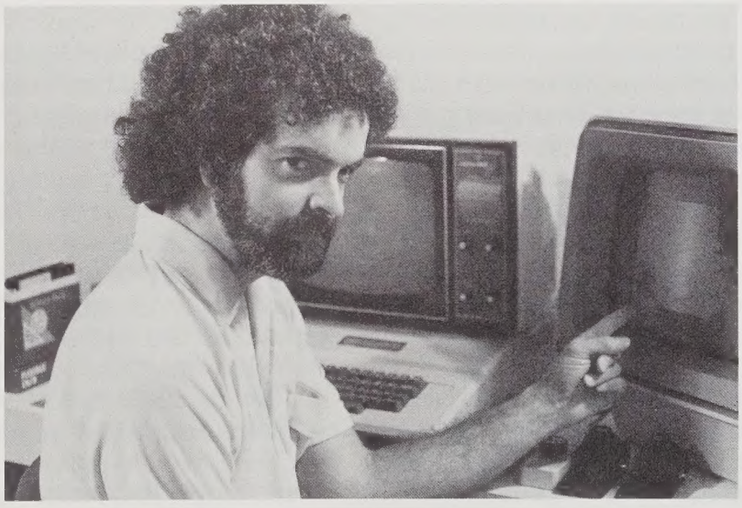
Since graduate school at R.I.T., Pirtle has concentrated on the computer as his primary tool. Graphics have almost entirely replaced the physical object in his work. As head of a computer graphics company called Stray Frames, he is doing futuristic computer-generated animation for motion pictures and television commercials. His success in his new medium has been gradual, but he is finding his bearings. He already has a number of visual pieces to his credit, is the art director for a pair of Triad Pictures science-fiction projects and has recently begun to work on graphics for a new release from Paramount Studios.

More a conceptual artist now, Pirtle is as excited by the tools and techniques of animation as by the end result. He can take his original idea, refine it on the screen, generate its almost photographic image and have the computer print it directly onto film. "The possibilities are literally infinite in computer graphics—I can create images of incredible depth and detail with a choice of thousands of color and tone variations. The only limits are the complexity of the program. It's like conjuring something from nothing—giving form and substance to daydreams. The computer is an almost magical tool."

Pirtle acknowledges a degree of give-and-take between his work and his tools. "To the extent that you are influenced by your surroundings, of course you are affected by the tools you choose. More than that, though, you end up taking inspiration from the kinds of things your tools can do." This echoes Gary Griffin's view that "you are drawn to particular processes by what they offer in terms of technical ability and visual stimulus, but once you've mastered them and relegated them to a means of support, they begin to influence you in more subtle ways. It's not all guided by esthetics; it's a two-way street."

Whether the craftsman considers tools an extension of ego or a part of his environment, amplifiers of physical capabilities or an extension of the mind, his interaction with them shapes his work. The tools themselves determine the form of the work, but the attitude they engender and the traditions to which they ascribe affect, to a great extent, the content of the work.

Tailoring tools, both in a straightforward engineering sense and in an esthetic sense, will inevitably lead to more personal and individual work. As for generations of artists and craftsmen past, the skill and understanding we have toward our work shows itself eloquently in the respect and pride we have in owning and using a quality tool. ■



John Pirtle, computer as design tool

Hans Appenzeller
Process Made Visible in Elegant Designs

by Jabez L. Van Cleef

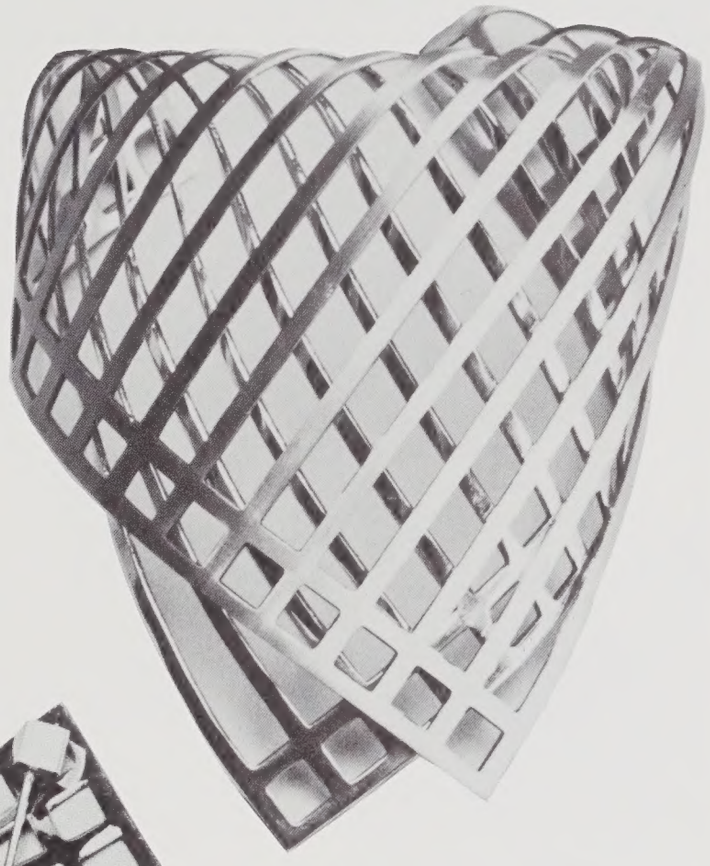
In April of 1983, a simple and relatively unpretentious store joined the ranks of the illustrious "boutiques" and other high-priced establishments lining the sidewalks of Madison Avenue on New York's fashionable upper east side. The store's interior is characterized by gray, neutral colors, unobtrusive display cases, lighting so discreet as hardly to be noticed; all serving as backdrop for several carefully selected jewelry creations, some vases and printed signs intended to explain the design principles applicable to each of the objects on display.

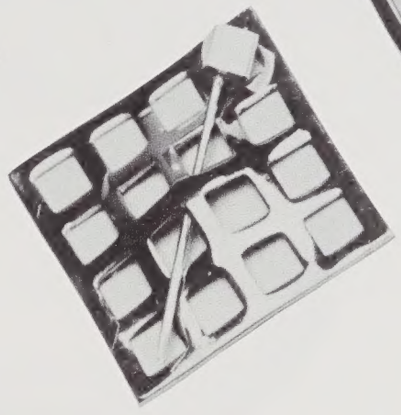
Appenzeller, the name on the store and on each of the pieces in it, is not a well known name in New York's high fashion circles; the store arrived without particular fanfare and seems determined by the almost laconic demeanor of its interior to let people discover for themselves who Appenzeller is and what he does. He is Hans Appenzeller, a Dutch designer specializing in jewelry, more particularly on incorporating the characteristics of industrial processes and the principles of industrial design into several types of finished, ornamental objects, especially jewelry.

After graduating from Amsterdam's Rietveld Academy in 1969, Appenzeller immediately opened a shop in collaboration with two partners. "We had what amounted to an already established clientele of young people who sympathized with our objectives, and who perceived themselves as part of a developing avant-garde," Appenzeller says. "Amsterdam was an exciting place in those days. News of something original would be carried throughout the city by word of mouth. People we had never heard of would show up on our doorstep with really quite wonderful designs, things that they wanted us to show. So we would show it."

Appenzeller and his partners were committed to exploring several new possibilities in jewelry design: first, that the fundamental properties of a material be made somehow manifest in the objects made from it; second, that the process of making the finished objects not be concealed, as is usually the case with jewelry; and third, that the materials selected be appropriate to the task in hand, allowing for the expression of the designer's technical proficiency as opposed to the object's display value. Appenzeller states the third principle succinctly: "We wished to assert the ascendance of taste over wealth."

As one might expect, Appenzeller's own design principles are exemplary: he sees himself as working in a functional way to make what are essentially nonfunctional things. He groups the things into what he calls





Opposite page *Demitasse spoons, silver, 1983;* **Below** *Cuffs and Pin,* gold and silver—using metal like a textile, 1980

Jabez L. Van Cleef writes about design, engineering and marketing for an industrial public relations firm in Manhattan

"collections": each collection being ruled by various self-imposed restrictions. Restrictions fall into several categories: characteristics of the material (rubber is elastic, plastic is transparent, gold is malleable); consequences of the technique (a metal grid, distorted by stamping, resembles a piece of fabric frozen into a given shape); uses of the finished object (method of closure functions as the determining factor for forms assumed by bracelets and necklaces).

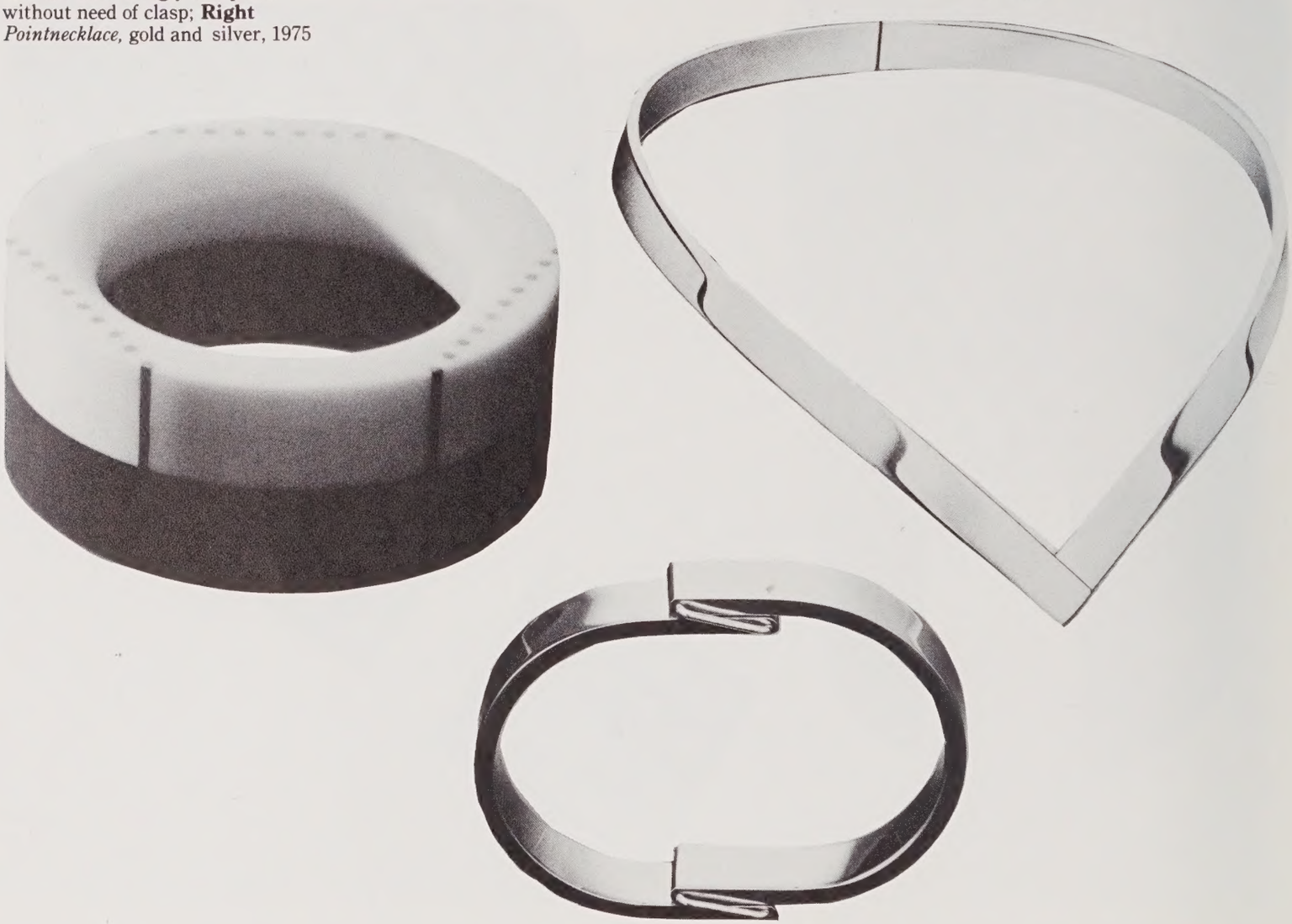
In evaluating his own work, Appenzeller perceives the "elegance" of a given design as directly proportional to the challenge that his self-imposed restrictions present. Thus the folding bracelet of 1975 is seen as particularly successful because it uses an extremely simple principle to solve a problem indigenous to bracelets. In both intention and result, this piece shows how closely related Appenzeller's thinking is to that of industrial engineering and other disciplines where function takes precedence over esthetics. That functional and esthetic values can be made to merge, and that the resulting objects will have an intrinsic commercial appeal—this was the true challenge, and the determining factor in where Appenzeller finds himself today.

In 1975, moved by the gradual dwindling of exciting new work for display in collaboration with his partners, Appenzeller opened a jewelry gallery of his own in Amsterdam. He also showed some of his work in New York (at Amulets and Talismans) and Boston (at the Institute of Contemporary Art). He felt himself being drawn into other areas of design than jewelry: vases, dishes, lighting fixtures, even buttons. He investigated the possibility of mass producing some of his designs and learned to estimate the amount of personal supervision a manufacturing operation would take in order to preserve the esthetic integrity of a given piece. Still, in spite of his steadily increasing renown, he became more and more interested in opening a store in New York.

An exhibition at Artwear, a Soho gallery specializing in unusual jewelry, opened the door for the eventual establishment of Appenzeller's Madison Avenue store. Occurring in September, 1980, the Artwear show aroused enough interest in his work so that he could negotiate agreements with several "high-tech" stores in Manhattan to sell a line of vases and bowls, designed according to the golden section, which he was having manufactured in Holland. The bowls, made of spun, anodized aluminum, were sold signed and ranged in price up to $100. Enough customers bought them for Appenzeller to investigate

Below *Bracelet, corian with brass inlay, 1981;* **Bottom** *Folding Bracelet,* silver, gold, brass, 1975. Connecting "rings" (top and bottom) allow for extension of bracelet's side elements to permit passage of the hand; bracelet locks snugly into place without need of clasp; **Right** *Pointnecklace,* gold and silver, 1975

Opposite page *Vase and Two Dishes* from the "Golden Section" collection, 1979. Height is proportional to width of opening, which is in turn proportional to width of base. (Tall vase: 26 cm h.; 16 cm d. at top, 10 cm d. at base)



seriously the idea of opening a store in New York.

This seemed like a rash decision at first. After all, what reasonable expectation of success could a jewelry designer have in a new market where whatever reputation he did have was built on vases and bowls? Appenzeller decided that good design is good design, and that if people will buy one well-designed object they will buy others. He reasoned further that his jewelry especially would only sell if it were displayed in an environment where customers could perceive what it was and, curiously enough, what it meant. And so, in spite of the necessity of still minding his own store in Amsterdam and supervising spun aluminum production in the Netherlands, Appenzeller appointed a business agent to find a site suitable for a store in New York within several clearly defined guidelines.

The store did not have to be large, but it had to be in the right place. Appenzeller instructed his agent to keep in mind who the jewelry would appeal to and what type of impression the store itself should create. Above all, the quality of the jewelry and the superiority of its design should never be subject to question. At the same time, the store should not be perceived as either pandering or condescending to the specific market selected. The diligence of Appenzeller's agent, Thom Van Kleef, was rewarded with success; a lease was signed in December, 1982, for commercial use of the ground floor at 820 Madison Avenue.

Renovation of the site, begun in January, was subject to the direct supervison or influence of Appenzeller himself, down to the fine details of lighting, colors and fixtures. The visual merchandising, if that is the proper term for an interior so sparsely arrayed, has still somehow managed to suggest a modicum of comfort and warmth. If one's first impression of the space is tinged with irritation at its minimalism, this changes to a form of respect for the designer's avoidance of gimmicks and new wave paraphernalia. After a time, the store's fixturization recedes into the background, serving simply as enhancement for the pieces on display. These are changed regularly to allow for a sort of eclectic review of Appenzeller's collections.

The collections are best described as exploratory clusters of objects developed through creative investigation of a limiting idea. For instance, the 1973 collection appears to be about the properties of rubber. Here we see

a piece of rubber not unlike a section of inner tube enclosing a band of metal, which reveals its shape within. The rubber clings to the wearer's arm, thus holding the assemblage in place as a bracelet. Other pieces feature a thick rubber strap held in place within a notched aluminum ring, a perspex (translucent plastic) armband that is adjustable across the edges of two black rubber buttons, a bracelet of metal tubes laid side by side and connected transversely by a rubber thread, and a massive brushed aluminum circle held shut by a visible clasp of rubber.

Appenzeller's more recent work shows above all else a playful appreciation for the materials he has come to know so thoroughly. 1982's collection of woven jewelry investigates this type of item—as necklace and as bracelet in particular—so thoroughly that it seems unlikely that other designers would care to compete with him. We see woven brass, stainless steel, silver and gold in a bewildering variety of configurations. Other evidences of a mind at play emerge only after much observation: a simple gold bracelet attached at each end to a semicircular piece of plastic which skews this way and that to allow passage of the hand, bracelets of corian (plastic impregnated with an aluminum oxide additive) seeming heavy as lead next to their ordinary plastic counterparts, and a diamond ring which actually *conceals* the diamond: "I designed the setting in such a way as to make it a logical necessity for the diamond to be there," observes Appenzeller.

Appenzeller's jewelry, embodying as it does so many of the principles of industrial design and engineering, may yet be blurred in its public's perception because of the ubiquitous and ever more meaningless concept of "high-tech." This would be an injustice, because the core of Appenzeller's inspiration is elusive and resistant to categorization. Very few mass-produced objects are suitable for esthetic appreciation, and the ones that are seem to have got that way almost in spite of themselves. Appenzeller, by having a clear vision of what he wants his pieces to look like and by fabricating each piece to an extraordinary degree of finish, is intentionally striving to create the beautiful, mass-produced "design object" before it is mass-produced. He appears in many cases to have succeeded.

And from this an intriguing question arises: if these bracelets and necklaces *were* mass-produced, would they still be as beautiful as they are now? ■

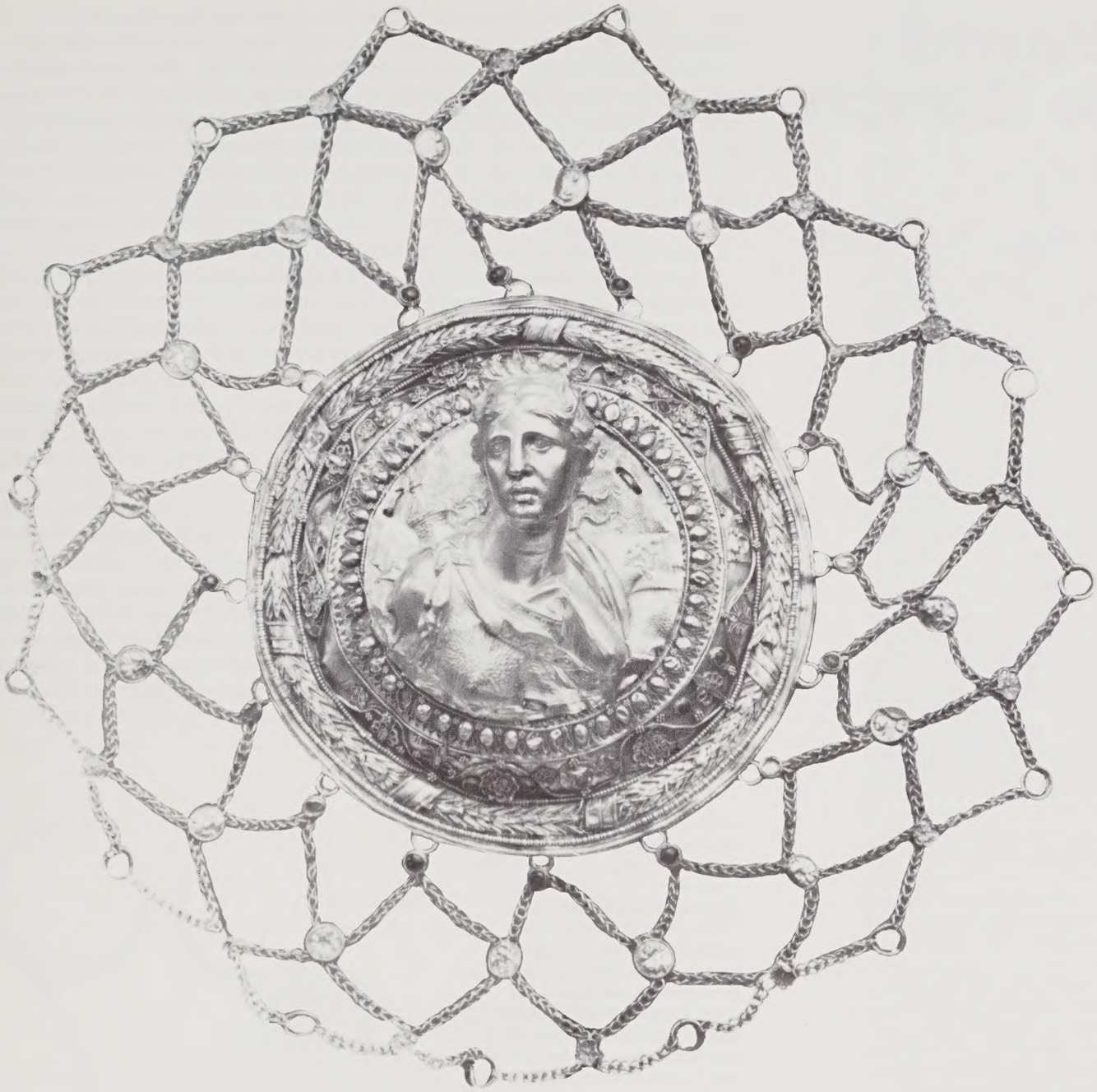
Masterpiece in Metal
The Artemis Medallion

Third century BC, found in Thessaly, Greece. Central roundell 11.5 cm, total diameter 21 cm. From the Hélène Stathatos Collection, National Archaeological Museum, Athens. Photo: courtesy of the museum

In northern Greece, sometime after the death of Alexander the Great, a master goldsmith fashioned this unusual medallion with its bust of Artemis, goddess of the hunt.

The medallion projects Artemis in high relief encircled by a rich frame of filigree, granulation, enamel and garnets that is again circumscribed by a network of loop-in-loop chains extending to a full diameter of 21 centimeters. The bust of Artemis was worked separately in the soft gold of the time, possibly formed initially over a bronze model, then attached to the medallion within a sawtooth edging. The three thin strips of gold which now secure the bust were a later addition. The head is in full relief. The face and hair of the goddess are beautiful examples of chasing and repoussé used with great expressive power. Perhaps deriving from a Praxitelian tradition, the oval face with its fixed gaze and slightly parted lips suggests an interior tension. The quiver and the animal skin thrown over her tunic point to the identification of the goddess as Artemis. The hair is artfully modeled into a high bow knot with loose tendrils falling onto her cheeks and flying behind the nape of her neck. In style the bust is similar to other depictions of Artemis datable to the third century BC and is in keeping with the cult of Dionysus prevalent in northern Greece at that period.

The encircling frame is divided into three concentric bands. Nearest the goddess is a 9mm-wide zone decorated with repousséd egg shapes soldered to the base and divided by filigree darts and granulated rosettes consisting of seven beads each. The middle zone is 12mm wide and decorated with a curving line formed of three wires that separate a garden of floral motifs, some of which are detached. Granulated and filigree rosettes, palmettes and ivy leaves are interwoven with round cabochon-set garnets. Most of the leaves and some of the palmettes are filled with green enamel. Encompassing this play of embellishment is a wreath of leaves, each of which is



edged with beaded wire. The wreath in turn is crossed by ligatures with traces of green enamel and surrounded by beaded wire whorls.

The network of loop-in-loop chain interspersed with garnets and small roundels with heads on them is the mysterious element in the medallion and leaves open to interpretation the purpose of this magnificent piece of gold work. Scholars have suggested that the chain network was perhaps intended as a hairnet to be affixed to a high chignon, for the rings at the outer edge seem to ask for something, like a cord, to pass through them. Although to date there is no corroborating historical evidence for this hairnet hypothesis, many feel it likely that the medallion was an object of personal adornment. Another possibility is that the medallion formed the lid for a pyxis, a type of cylindrical box, which possibly held ashes after cremation. Among the few known examples of this kind of medallion, four of which are in Athens, is one in the Princeton University Museum, but it does not have the network of chains attached. The Artemis medallion was part of a gold horde discovered in Thessaly in 1929. It became one of the focal pieces in the important jewelry collection of Hélène Stathatos which was given to the National Archaeological Museum in 1957.

The fullness of conception of the figure, the fine rendering of detail and the rich ornamentation of filigree and granulation distinguish the Artemis medallion as a masterpiece of Hellenistic goldsmithing. Probably fabricated by an extremely skilled artisan in northern Greece, a well-known center of metal crafting, it embodies the painstaking techniques of fine wire and granulation work artfully combined with the inherited sculptural tradition. The fascination of the Artemis medallion is only increased by the enigma of its purpose.

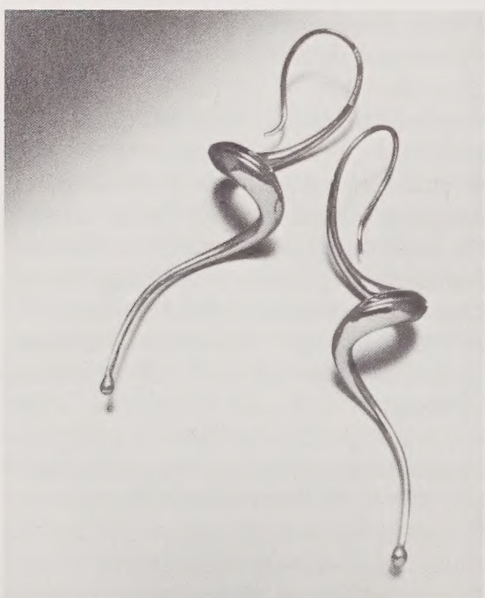
—Anne Barros, with information supplied through the kindness of Olga Tzahou-Alexandri, Director of the National Archaeological Museum, Athens, Greece

Beyond the Bench Production Jewelers and How They Survive

by Akiko Busch

From time to time, Metalsmith *will focus a series of articles on a particular aspect of jewelers. Beginning in this issue we take a look at production jewelers: breaking into the field, creating and marketing a line and running the business. We will explore the restraints and rewards peculiar to the craftsman who designs for production. While this issue's article acts as a general introduction to how a crafts background translates into production work, future articles in the series will more specifically address education, marketing programs, business management and the visibility available through exhibitions, expositions and editorial coverage.*

We would like to thank those who helped compile this article, particularly Ivy Ross and Jim Meyer, and also the jewelers who spent valuable time filling in a lengthy and detailed questionnaire.



Spun gold and sheet metal, gunmetal plating and plastic—as varied as the materials that emerge from production studios are the reasons that jewelers establish them. Fiscal interests perhaps head the list. "Money. I was tired of waiting on tables," says one production jeweler. And another: "Money. In my first gallery show, the only pieces that sold were the production pieces." Another found it the only profitable way to continue a fine arts appreciation. But most to the point was a remark made by Etienne Perret of Etienne Fine Jewelry in Camden, Maine: "If a design is good enough to do once, it is good enough to do again." And this, in one way or another, is the reason why these art jewelers have chosen to do production work.

Still, even if a design *is* good enough to repeat, how this repetition is best expressed is what distinguishes the work of these jewelers from one another. In a survey of their production work, one difference that stands out clearly is the degree to which it reflects the one-of-a-kind fabrication background most of these metalsmiths share. Mark Pierce of Mark Pierce Designs in New York City describes his pieces as mixed-media assemblages of precious and non-precious materials; his laminations of polymer and aluminum, he says, obviously look handmade simply because he starts with raw materials and "a lot of fabrication is involved."

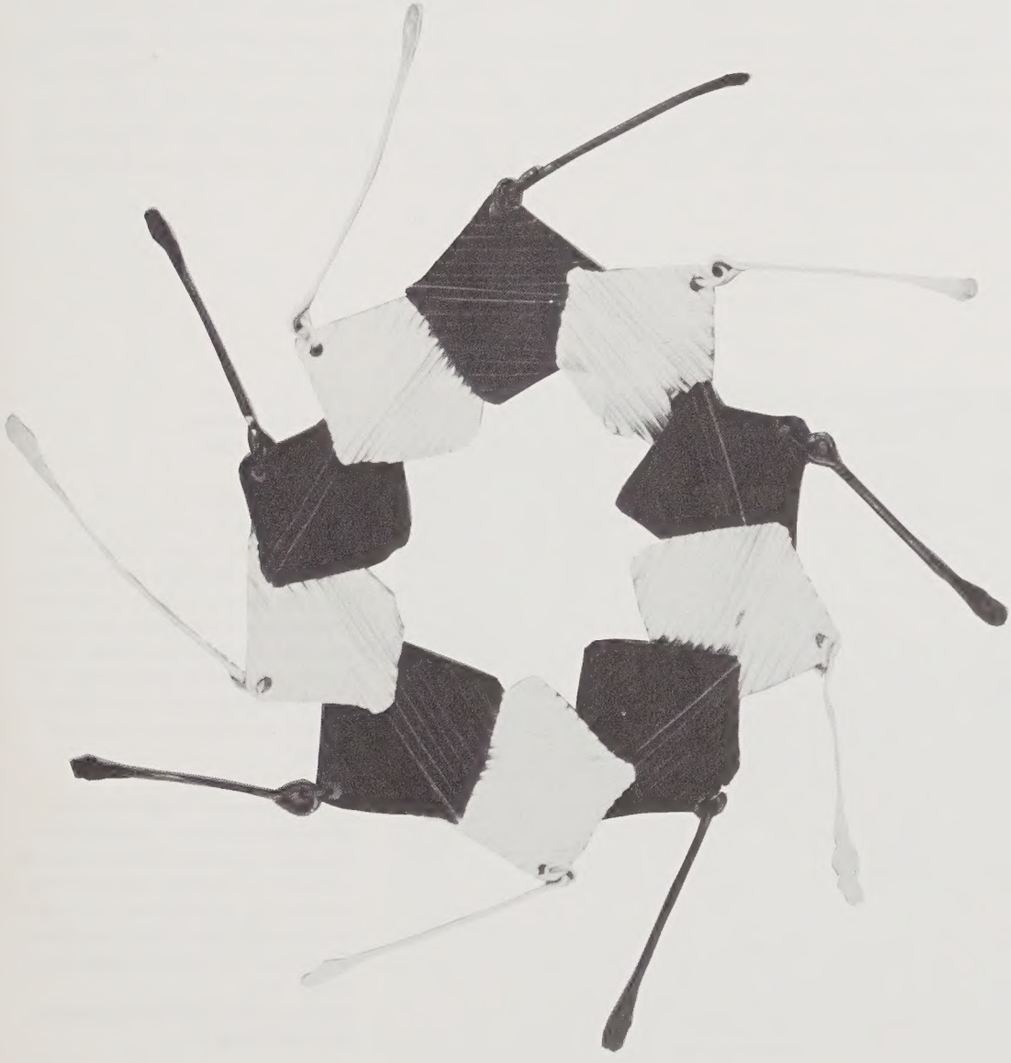
On the other hand, Perret suggests that "If it looks handmade, the piece isn't as well crafted as it should be. The general public identifies 'handmade' with certain irregularities and imperfections. And I'm trying to achieve the perfect." Perret's line uses precious metals—gold, platinum, diamonds. "The malleability and rigidity of precious metals holds form the best. They allow me a technical advantage. And," he adds, "If you want to be taken seriously, you should use a material that will be considered important for more than a few years. The diamonds and sapphires in our pieces hold more brilliance than a piece of malachite."

Business Name:
Etienne Fine Jewelry
Camden, Maine
Designers:
Etienne Perret, Michael Good
Description of Jewelry Line:
Limited production in gold, platinum and diamonds. Jewelry is hollow-formed from a flat sheet to make it light, flexible and comfortable. Working in production jewelery for over 10 years. Line remains stable with additions
Business Setup:
Cooperative. Ten employees, nine full time, one part time; most employees have commercial jewelry experience. Operate a retail store and advertise in trade journals and local newspapers. Have had work in showrooms and fashion magazines. Members of the Jewelers Board of Trade. Sell primarily through galleries
Education:
Hands-on experience

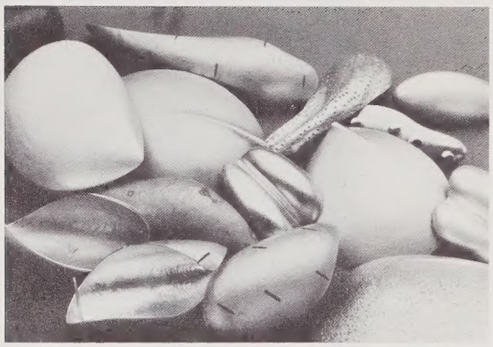
What these two metalsmiths make amply evident is that materials no longer dictate style in production. While industrial laminates can be fashioned to reflect a handmade look, traditional precious metals can be styled by industrial techniques—rolling, stamping, tumbling, plating—to achieve mechanical perfection. In production jewelry, it is, as Perret concludes, not a philosophical judgment that decides whether a piece should appear handmade or not, but determining what process will cut down on time to produce the best results at the least cost.

As also might be concluded from the above arguments, production craftsmen acknowledge their handcraft backgrounds to different degrees. Many, understandably, are unable to find the time to continue this line of work. But those who can find it rewarding. Says Laurence Seegers, a New York jeweler, "My custom pieces are generally bigger. And the stones are larger." For these reasons, and the additional time they demand, they are also more expensive. While Seegers finds that these pieces are less constrained, larger, riskier and more inventive, he also finds that the ideas they generate can be modified for his production pieces. Or, he adds, "Sometimes I can carry an idea I have in a production piece much farther in a custom piece. For me, the two go hand-in-hand." Others find simply that handworking an occasional piece makes for a refreshing break. "I enjoy carving wax for gold rings," explains Kate Hines, a production jeweler in Boston. "Carving for one-of-a-kind pieces is a great break from the numbers of production."

While some production jewelers maintain the vitality of their work by making occasional one-of-a-kind pieces, others make changes in the production line. Perret states that their line "never changes. We simply add to it." Still, within a certain line, changes are made to accommodate certain markets. For example, smaller versions of some pieces will be produced for those with less to spend, while diamonds will be used in other pieces to accommodate those with more.



Business Name:
Deborah Fine Yohai Designs New York City
Designer:
Deborah Fine Yohai
Description of Jewelry Line:
High-fashion, elegant and adventurous jewelry with emphasis on manipulation of materials—textured brass plated in gunmetal, black, antique copper; innovative use of chains, some stones. Working in production jewelry for three years. Line changes three times a year—moving in the direction of upper end of the fashion market: $50-$200 retail
Business Setup:
Solely owned but also shares a cooperative showroom with one other person. Eight employees, five full time, three part time; most employees from art metalsmithing background or art students. Does promotional mailings; has a commissioned rep and does fashion shows. Sells primarily to department stores
Education
San Francisco State University graduate school; Revere Academy of Goldsmithing



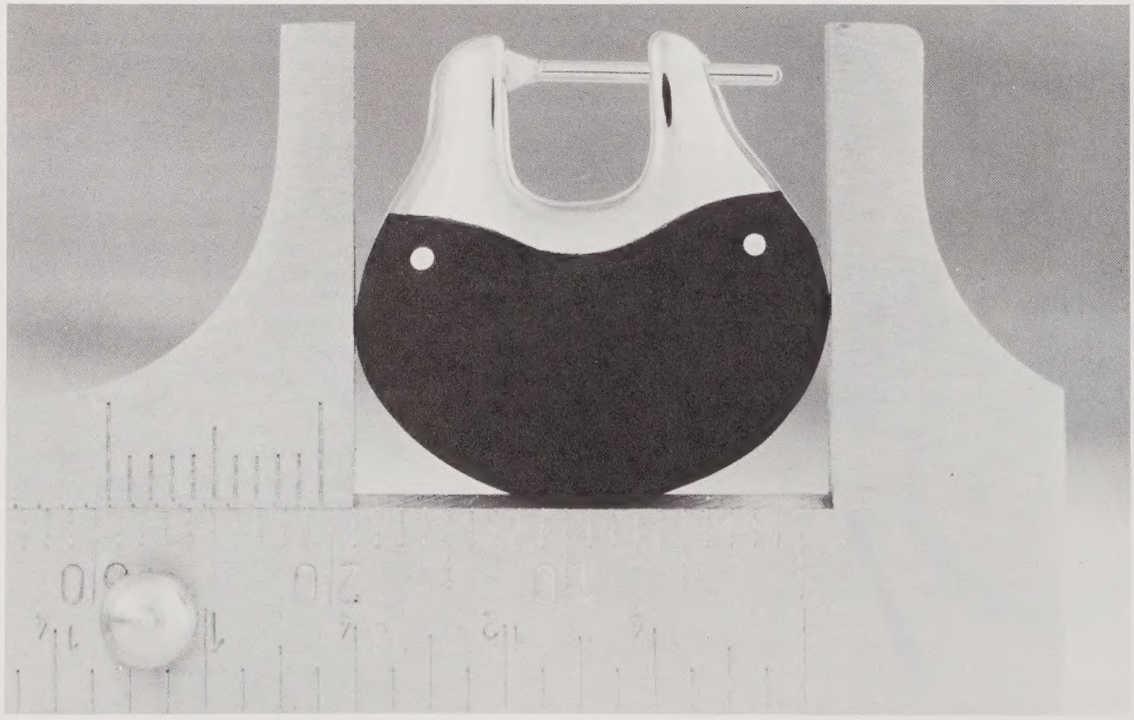
Business Name:
Kate Hines
Boston, Massachusetts
Designer:
Kate Hines
Description of Jewelry Line:
High-fashion, dominated currently by earrings in sterling, nickel silver, copper, yellow brass. Gears color range to season. Working in production jewelry about one year. Line remains stable; adds to it
Business Setup:
Solely owned. Two part-time employees, one with no metals training, one with a BFA in metalsmithing. Has a commissioned rep and also visits galleries personally. Holds a studio open house and sends work to showrooms and fashion shows. Accessorized Halston's Ready-to-Wear Collection in Vogue, 1982, and work has appeared in other fashion magazines
Education:
Metalsmithing and Jewelry Department, Rhode Island School of Design

How a line adapts and changes clearly depends on its orientation. If the line addresses the fashion industry, it will reflect the colors and shapes of that season. As Pierce observes, "In some respects, I allow current trends to affect my work, not in terms of design, but in terms of color. European fashion designers affect popular taste in color seasonally in urban areas. But otherwise, I follow my own instincts about fashion direction."

Whims of the fashion industry will plainly carry less weight on a line of art jewelry. Nor are the two kinds of lines mutually exclusive. Deborah Fine Yohai in New York points out that although she gears her work for "upper end fashion," she looks to fine art—printing and sculpture—for inspiration. Although her pieces of textured brass plated in pink, yellow, silver, gunmetal, black and antique copper address the fashion industry and reflect its stylistic changes three times a year, they are informed more by the fine arts. Perhaps Pierce sums up the changes in production lines best when he says, "My line changes radically. Not because I feel the need to target the work to a specific market, but because, as an artist and designer, I must continue to grow. And the work must change, or I couldn't possibly stay motivated."

While these differences, and the dialogue they provoke, between production metalsmiths almost certainly demonstrate a lively and dynamic area of design, a predictable set of similarities does exist between them: Cash flow, pricing, establishing credit, the simple procedures of how to start (and expand) a business are stumbling blocks they have all encountered. Pierce, for example, points out that not until he realized that he should pay himself as a designer as well as a craftsman did his pricing become competitive.

Production jewelers rarely enter the profession equipped with any kind of business background. And indeed, the skill it takes to ascertain costs and maintain cash flow must often match the competence exhibited at the bench. While this is true for any professional craftsman, it applies especially to the production jeweler whose dependence on outside suppliers and contractors, bulk purchasing of materials (often precious and expensive) and larger studio staff make often extravagant financial demands. Most, however, have proved it possible to learn the rules of the game while playing and devise an equation of costs specific to their needs. This equation for pricing usually considers some combination of materials, labor, overhead, percentage for loss, profit margin and marketing. Seegers, for example, very simply doubles the cost of materials, charges $25.00 per hour for labor and adds an 18 percent charge to



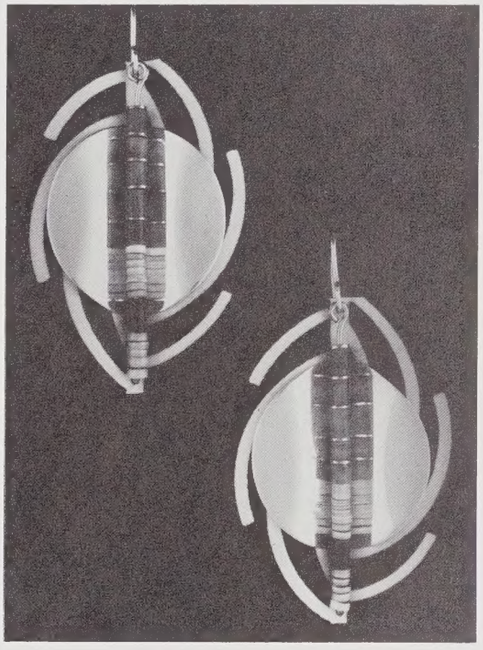
Business Name:
Seegers Jewelry
New York City
Designer:
Laurence Seegers
Description of Jewelry Line:
Emphasis on high-fashion and art jewelry, earrings in particular in gold, silver, bronze, brass and precious stones; clean and neat combinations of materials. Working in production jewelry for 15 years. Adds to line three times a year; discontinues outdated looks
Business Setup:
Solely owned. Three full-time employees from art metalsmithing backgrounds. Has a commissioned rep. Sells to department stores and small jewelry shops as well as galleries. Work has been on covers of fashion magazines
Education:
Rhode Island School of Design and self-taught

cover the 15 percent cost of sales; Yohai estimates costs of labor and materials, 15 to 20 percent commissions for sales representatives in the South and West, and then adds a 50 percent charge.

And further, the pricing equation must be ever-changing as skill, overhead and size of staff are only some of the variants. Among these, however, the most important perhaps is marketing. Whereas a small studio might have no marketing budget whatsoever, a larger, more established firm with national accounts will almost certainly need to consider marketing. Etienne Fine Jewelry, for example, owns its own retail store and advertises in trade journals and local papers, whereas smaller businesses will have to depend upon occasional promotional mailings and the jeweler's personal visits to stores and galleries. But as most production jewelers will agree, the growth and scope of a marketing program should match that of the work it promotes.

The marketing program does, however, in most instances, include exhibiting in craft fairs, which not only gives jewelers exposure and sales, but also allows them the opportunity to view the work of their colleagues and competitors. By word-of-mouth, the fair's reputation or their own experience, jewelers determine which fairs are the most appropriate for their production line; and most have found some degree of success at the National Fashion Accessories Expo held twice a year in New York City and the Jewelers of America Show. Still, as with promotion, the amount of exposure a production jeweler looks for in a fair or expo should directly reflect the amount of production it is able to achieve: While Etienne Fine Jewelry will be represented for the first time this year at the Jewelry and Watch Show in Basel, Switzerland, smaller studios find the exposure they need in regional fairs. Most jewelers do agree, however, that the same kind of work can be taken to different fairs and that a production line need not be fine-tuned for specific exhibitions, save, in Kate Hines's words "a color range that might be geared towards a season."

Just for the sheer numbers the production jeweler works in, his work is, by nature, more informed—in both process and material—by industrial techniques than is the art jeweler's work. Yet their one-of-a-kind fabrication background remains much in evidence. How, exactly, industrial techniques and hand fabrication recognize one another is often what most distinguishes the work of these production jewelers. In the next installment of this series *Metalsmith* will discuss, among other issues, this use of industrial techniques with the work of Pam Levine, Cathleen Bunt and Ars.



Business Name:
Mark Pierce Designs
New York City
Designer:
Mark Pierce
Description of Jewelry Line:
High-fashion and art jewelry—mixed-media assemblages, in precious as well as nonprecious materials, combined in a clean, graphic manner and strengthened by unusual colorations and surface treatments. Uses a unique laminate of polymer and aluminum, calling it "luminar." Has been working in production jewelry for three years. Line changes constantly with artistic growth—adds and eliminates designs two times a year
Business Setup:
Solely owned. Six part-time employees, half from art backgrounds with no jewelry training; half from fine jewelry backgrounds, including apprenticeships to goldsmiths in Europe. Operates own showroom and exhibits at fashion shows. Does not actively seek fashion magazine exposure. Sells primarily to department stores
Education:
Self-taught, except for a brief apprenticeship to a silversmith

A Metalsmith's Guide to **Germany**

by Ann Grundler

My trips to Germany in 1980 and 1982 were the most satisfying experiences in relation to my metalwork. They were the most rewarding in my growth as an artist/designer and the expansion of my business. Therefore I would like to share some of my observations. Although I will discuss at length here both Pforzheim and Idar-Oberstein, they are by no means the only places rich in what jewelers and those interested in metalwork are looking for. Following is a list of suggestions on finding unusual jewelry and metalwork in any location in Germany, along with some specific places to start.

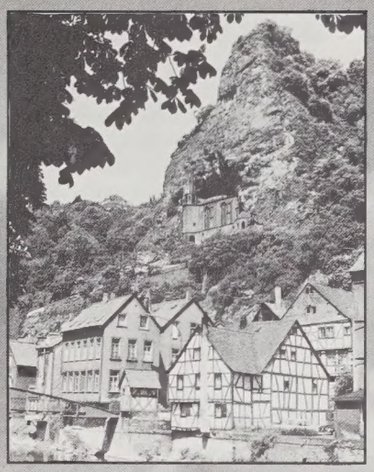
Ann Grundler is an independent jeweler of German origin who lives and works in Castro Valley, CA

Pforzheim Pforzheim is not only the center of the jewelry industry, it is a charming town. The small town flavor mixes with the big city excitement without the oppressiveness. The parks are inviting; especially relaxing are the ones along the rivers Enz and Nagold. Pforzheim is the gateway to the Black Forest region and attracts visitors to its many cultural and recreational offerings in and around the city. The jewelry stores show work no more exciting than that in other German towns with a population of over 100,000. But there are these special places of interest to the goldsmith/jeweler, some of the best in the field, all within walking distance.

The best place to learn about places of interest is the Tourist Information center. Just about any city in Europe will send you maps, lists of hotels and pensions and attractions of the city. One of the nicest is the Stadtinformation (Marktplatz 1, 7530 Pforzheim). They speak English and have lots of brochures in English. Request them two to three months before you start your trip. None of the places mentioned in Pforzheim charge admission.

Idar-Oberstein Idar-Oberstein is situated in a narrow valley with steep rocky walls rising on most sides and the Idar river running through it. Life is a bit tougher in this region; the weather a bit cooler.

Idar-Oberstein is the hub of the precious stone industry. Hundreds of small and some larger stonecutters are located in the city and in a number of communities surrounding the town. They are easily accessible and many cater to the tourist trade with inviting storefronts. This is quite in contrast to Pforzheim, where the retail and wholesale business is completely separate.

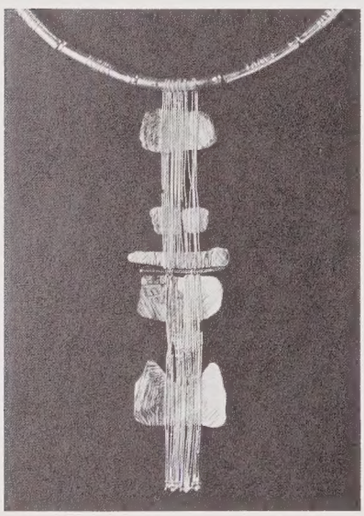


The train station is in the city section, Oberstein, and directly across from it is the Tourist Information center (6580 Idar-Oberstein). In this part of town is Felsenkirche, a church built into the cliff face, and below it, on the river, is the Heimatmuseum. This museum has a large and varied collection of minerals, carved stones and traditional and contemporary sculpture of the finest quality in design, material and craftsmanship. One room shows contemporary jewelry, another samples of the jewelry and accessory industry from this and the previous centuries. Last year the museum mounted a special exhibit from Czechoslovakia including work by Anton Cepka. Some of the displays could have used some dusting and polishing, but budget cuts seem to be a world-wide malaise. One room is set up as an old lapidary, where the men used to do their work lying on their stomachs.

Jewelry Stores + Galleries

In almost any German town you will find a goldsmith who has some intriguing work on display. Some may have just a few unusual pieces, others have a great selection. The quality will vary too. To find the best in each town just walk into a jewelry store which seems to show well-designed work and ask about others in town. However, jealousy and differences of opinion on what is worth seeing might make it necessary to inquire in more than one place. Some of the outstanding jewelry stores and galleries showing Europe's finest artists in metal are as follows:

Orfevre, Bastionsstrasse 31, 4000 Dusseldorf, telephone: 0211/325328. Marie Hassenflug dares to show the most avant-garde work by outstanding artists such as Hermann Schafran, Hubertus von Skal and Christa Luehtje. The selection is large for this type of work. She shares a studio with Michael Kunze in the gallery.



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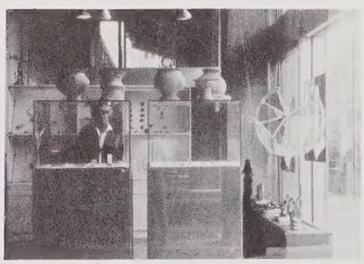
Map—Gallerie für Schmuck und Objekte, Auf der Ruhr (WDR-Vierscheibenhaus) 5000 Cologne 1, telephone: 239195. Map Sauer shows jewelry (and sculpture) by Nele, Jan Wehrens, Michael Zobel, Carl Heinz Reister, Klaus Ullrich, Miriam Sharlin, Peter Hassenflug, Marie Hassenflug and Sous. She also shows bronze castings and other fine crafts in her spacious gallery.



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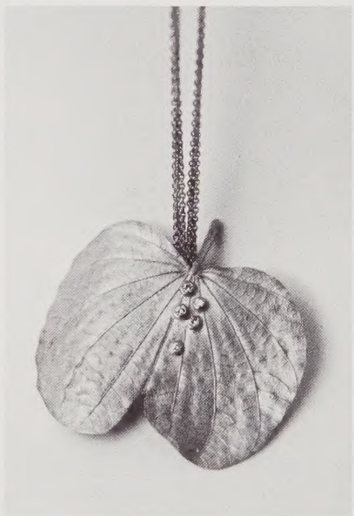
Heyden, Kölner Ladenstadt, Ladden 22, 5000 Cologne 1, telephone: 245350. The most outstanding work at Goldschmiede Hayden is jewelry in a combination of sterling and gold, as that of Doris Raymann-Novak, Uwe Boettinger, Wilhelm Buchert and Edgar Hoefling. Also shown here is work designed by Elisabeth Treskow, known in the United States for her granulation. Now in her 80s, she cannot work anymore.



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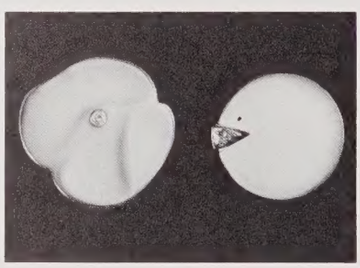
The other leading galleries for jewelry are:
Galerie Charlotte Henning, Rheinstrasse 18, 6100 Darmstadt, telephone: 06151/24617
Lalique, Bleitreustrasse, 1000 Berlin 12
Atelier Ehinger-Schwarz, Marktplatz 20, 7900 Ulm, telephone: 0731/60043
Galerie Thomas, Maximilianstrasse 22, 8000 Munich 22, telephone: 089/295517
Guenter Krauss, Kronprinzstrasse 21, 7000 Stuttgart 1, telephone: 0711/297395



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Museums + Exhibitions

Any city in Germany has one or several museums showing rich collections of art, including lots of metalwork made in the last 1000 years, and some older. Many museums have more stored in the basements than on display and can be choosy in what to show. During the fat years, new museums were built to generously display not only the old, but the latest American artists. Valuable metalwork can be found in the treasure chamber (Schatzkammer) associated with some cathedrals (Dom or Münster).

The **Schatzkammer** in the **Residenzmuseum** in Munich (Max-Joseph-Platz 3, telephone: 224641) is most impressive. The opulence of the vessels with an abundance of gems shows how appreciated this type of work was, as it must have been incredibly expensive.

The **Roman-Germanic Museum** in Cologne (Roemisch-Germanisches Museum, Roncalliplatz 4, telephone: 0221/2211) just in front of the main train station has a collection of antique jewelry quite varied in design. Another example is the **Landes Museum** in Stuttgart with its collection of jewelry and small objects mostly from the 19th century, and another section with very early metalwork.

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The best place to meet designer craftsmen is at the **Frankfurt Exhibition** (Frankfurter Messe) held each year at the end of February and in August in Frankfurt. Here one can meet more designer-goldsmiths than at any other exhibition in Germany, I was told.

Another center for goldsmithing art is Hanau. It used to be especially important for the finest in quality and is still known as "Hanau—city of precious jewelry." **The German House for Goldsmiths** (Deutsches Goldschmiedehaus), built in about 1538, has changing shows of international rank.

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The Jewelry Museum (Schmuckmuseum Pforzheim, Jahnstrasse 42, 7530 Pforzheim) located in the Reuchlinghaus, permanently exhibits the history of European jewelry from antiquity to the present, with original pieces from five millennia. The collection of antique and modern rings is remarkable, considered the largest in the world. The ground floor holds the antique collection and the new wing for special shows, as that of Reinhold Reiling (see Metalsmith fall/82, page 44). On a lower floor are located some of the Pforzheim industry exhibits and the second floor holds work of the early 20th century right up to the present. This room will hold the most joys for the contemporary jeweler. Some of the best work of many well-known metalsmiths from around the world is on display here, including some from the United States. This is the only place that continuously shows the very best of international metalwork. Even though the Schmuckmuseum is not really large as museums go, I found it required several visits in order to comprehend and absorb the different approaches, ideas, designs and exquisite craftsmanship. Almost across from the Schmuckmuseum is Schuett's Precious Stone Exhibition, with a large collection of crystals, minerals, cut stones and finished jewelry.

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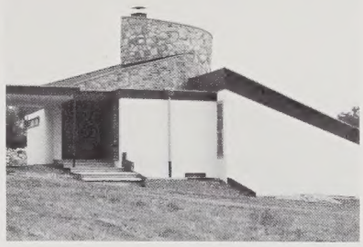
Studios

The permanent **Samples Exhibition** (Staendige Musterausstellung) is the showcase of Pforzheim's jewelry industry, including also watches and silverware. On the top floor of the Industriehaus (Poststrasse 1) near the Leopoldplatz, it serves as an information center for retail jewelers (and anyone needing supplies) about manufacturers in and around Pforzheim. Over 240 exhibitors have their best products on display in 270 cases spread over seven rooms. The Samples Exhibition is open only to retail jewelers (Juweliere) not to goldsmiths or anyone (who admits) being on the production end in any form. One has to show a business card or the like to get in. Free copies of German jewelry magazines are available. Look under "Wo-Was-Wann" in the *Goldschmeidezeitung* or *European Jeweler* for current jewelry exhibits in Europe. They have a handsome free catalog of all exhibitors. (Remember, if you say you are a goldsmith, they will not let you in.)

The 10 or more story high **Diamond and Precious Stones Exchange** building dominates the city section of Idar. On a lower floor of the exchange is the **German Precious Stones Museum** (Deutsches Edelstein Museum). It has a large selection of gems and minerals, including carved antique and contemporary gemstones, starting with Sumerian seals. The presentation is excellent. In 1982 the museum more than doubled in size.

Of great interest to the goldsmith is the **Continuous Sample Show for Precious Stones and the Jewelry Industry** (Staendige Musterschau). It is located on the top floor of the same building and open to visitors in the trade. A great variety of mostly cut and carved stones is elegantly displayed in hundreds of showcases, with business cards conveniently stored under each case. Anyone can become a member of the sponsoring organization and rent space. Most exhibitors are from this region and some have offices in the same building. I noticed a higher quality of both work and display since my previous visit in 1980.



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In Stipshausen, about 16 miles north of Idar-Oberstein, just west of Rhaunen, designer and stonecutter **Bernd Munsteiner** has his studio (Wiesenstrasse 10, telephone: 06544/600). The location spares him any tourist traffic, but goldsmiths and patrons are welcome. In his handsome gallery and studio sculpture and a few pieces of beautiful jewelry are on display. He makes his living by selling uniquely cut stones. They are not on display, as "everyone" knows he has them for sale. A master stonecutter works with him and one excellent goldsmith. The sculpture and jewelry are mostly created for shows. A biannual exhibit in his studio is an extravagant affair, where he shows his work and that of other jewelers and artists from Germany and other countries.

Around the Bourse on one side goldsmith **Herbert Munsteiner** has his gallery and studio (Mainzerstrasse 69). He is the brother of Bernd Munsteiner and his innovative goldsmithing compliments the designs of Bernd's stones. On the other side of the Bourse is the **Lorenz Crafts Gallery** (Hauptstrasse 105). Here Dieter Lorenz shows his contemporary gem carvings, well set into modern jewelry or as small sculptures. Lorenz, a former psychologist, entered the field only a few years ago, but his work is growing fast. Recent issues of the *European Jeweler* report that he has won some awards in leading competitions.

Schools

The Goldsmith and Watchmakers Training School (Goldschmiedeschule, St. Georgen Steige 65) is the most influential in the field. At the end of the school-year in June I was able to view their extensive exhibit of student work. I was impressed by the thorough teaching going on there as demonstrated on the step-by-step samples, the fine craftsmanship in pavé setting, the drawings and renderings of metalwork in color, including all types of stones. The office requests that you ask for permission to take photographs. Although the show is open in June only, the office will give you information at any time of the year.

The College of Design (Fachhochschule für Gestaltung, Holzgartenstrasse 12) stresses a more advanced artistic level. There is not much, if anything, on display, but usually the office will give you a tour of the classes. You might be able to get closer contact with the professors if you introduce yourself ahead of time by writing, as would be the case with any goldsmith in Germany.

The Public Academy of Drawing in Hanau (Staatliche Zeichenakademie) is one of the leading institutions for the education of the goldsmith in Germany.

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Supplies

There are tools and supplies, including findings and chains available in Pforzheim you might not get anywhere else, or not the quality or at the manufacturer's price. For tools I visited **Karl Fischer GMBH** (Berliner Strasse 18) and **H. Seltsam** (Leopoldstrasse 20). Fischer has a fat catalog in English. They ship worldwide. There are numerous manufacturers for findings and chains in and around Pforzheim. If you need findings for earrings, **Robert Beck** (Schulberg 3) is a good small manufacturer to do business with. **Ernst Gideon Bek** (Lameystrasse 2-10) is one of the largest chain manufacturers. By law, to each sale, 13% value added tax (Mehrwertsteuer) has to be added, retail or wholesale. If you can get the company to prepare the right export forms and you show them and the bought goods to customs (Zollamt) at the airport when leaving the country, and have them sign the form and mail one in the supplied envelope back to the seller, you will get the tax refunded by the company.

One of the old lapidaries for agate, the **Weiherschleife** (Tiefensteinerstrasse) was restored in 1954 and is open to visitors, the only one of over 50 along the Idar once in operation.

Frontis Panorama of Pforzheim on the Enz river; **Inset** Felsenkirche (church in the rocks), Idar-Oberstein
1 Klaus Ullrich, *Necklace,* 22k gold, 1970. Collection: Schmuckmuseum Pforzheim
2 Map Sauer behind some of the jewelry cases in her gallery in Cologne
3 Günter Krauss, *Pendant,* 18k gold with diamonds
4 Dieter Lorenz, *Brooches,* carved rock crystal and chalcedon
5 *Diadem,* gold sheet, 34.2 cm l, Roman-Germanic Museum
6 Lucien Guntrait, *Peacock,* Art Nouveau pendant, Paris, 1900. Collection: Schmuckmuseum Pforzheim. Photo: Gunter Meyer
7 *Greek Bracelet,* third century B.C. Collection: Schmuckmuseum Pforzheim
8 The gallery and studio of Bernd Munsteiner, Stipshausen
9 Interior of Munsteiner gallery
10 Herbert Munsteiner, *Pendant,* sterling silver with agate and tourmaline. Photo: Baumann
11 Studio of Herbert Munsteiner, Idar-Oberstein. Photo: Baumann

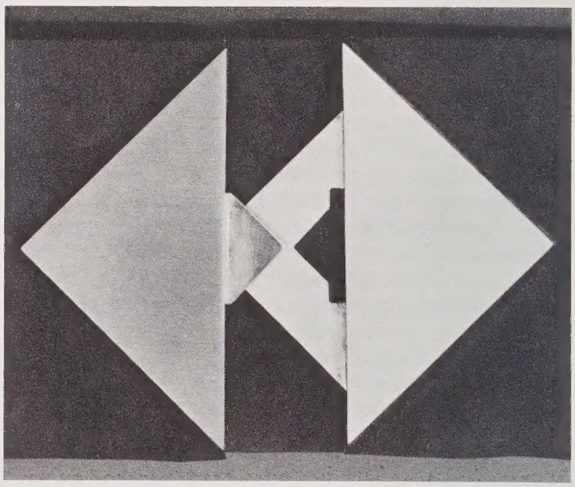
WGG The Washington Guild of Goldsmiths

by Gail Goldman

It all began in 1978. Gretchen Klunder-Raber issued an open invitation to all persons interested in metalsmithing in the Washington, D.C. metropolitan area to meet to discuss the possible formation of a guild. Raber was keenly aware of the frustration created by the independence and isolation of individual artists in the area through her association with a small group of metalsmiths brought together by the Creative Crafts Council shows. The group had held informal meetings over a number of years which were pleasant and supportive, but Raber realized that without an organization they had no control over how their work was presented. Raber envisioned a society that would stimulate artistic growth and a climate of mutual support among members with a common interest. So, with courage and enthusiasm she drew up the letter with which the Washington Guild of Goldsmiths (WGG) was founded.

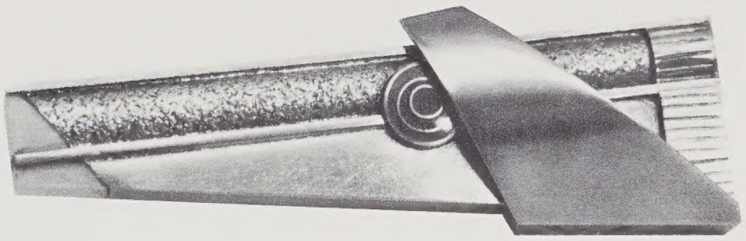
Rapid and significant growth has characterized the WGG since then. Founding membership totaled 22; now the guild boasts over 125 members from the metropolitan area and many of the mid-Atlantic states. Through the active participation, creative programming and steadfast commitment of the metalsmithing community, WGG has gained a reputation as one of only a few self-sustaining working guilds in the United States.

Membership requires only an interest in metalsmithing; the guild includes full-time professionals, part-time students, dealers and private patrons; their careers span chemistry and education, law and arts administration. Because of this open policy, opportunities to exchange ideas and technical expertise are abundant. This diversity and range of experience that collectively form WGG provide members with a means of informal critique, introduction of new ideas and methods and interaction with interesting talented people.



Above Stephen Albair, *Kiss,* removable 18k and ivory pin in center of tortoise-shell hand; plexiglas, gilded brass, 1982, 10¾x9¾x4". Photo: the artist.
Right Joke von Ommen, *Belt,* stainless steel and rubber, 1981

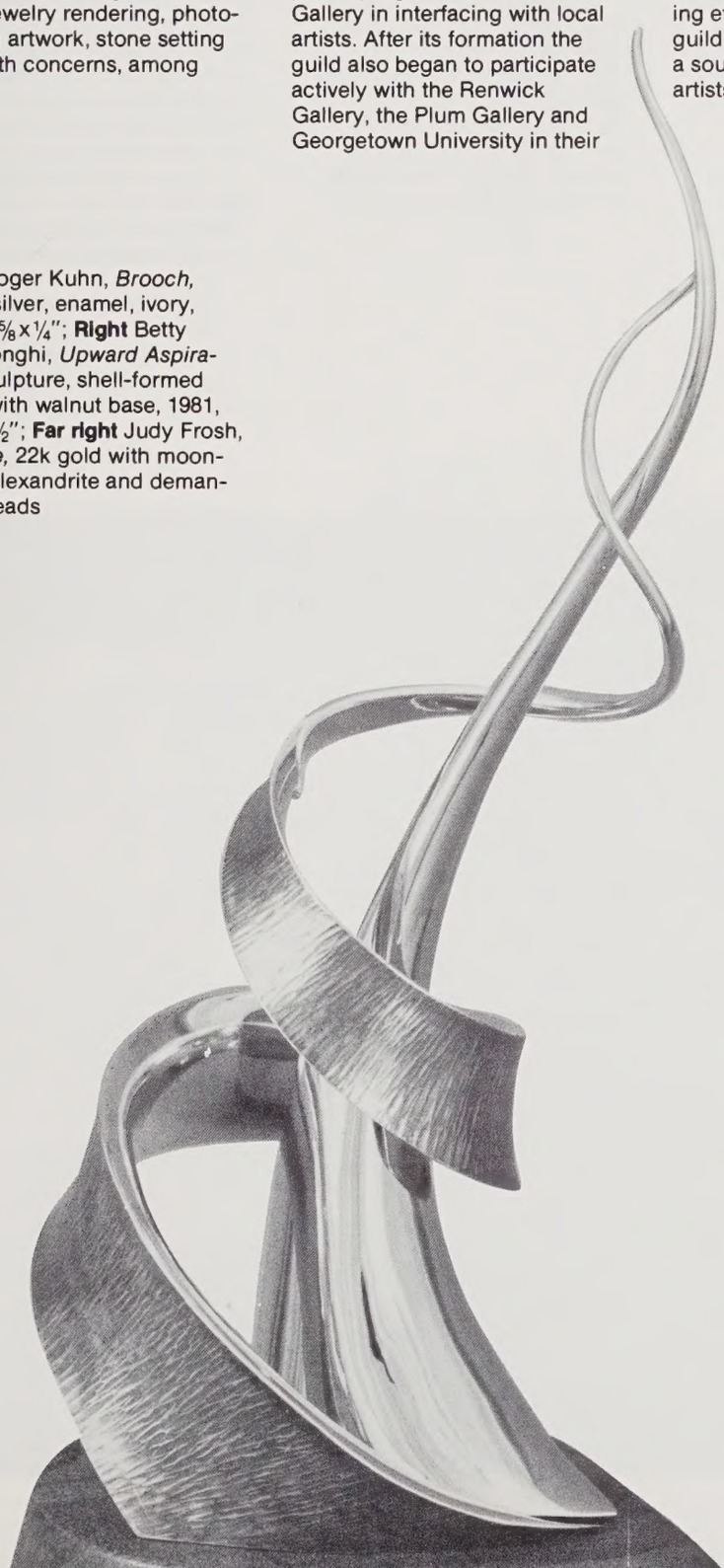
Gail Goldman recently moved to Denver from Washington, D.C. where she maintains a studio and is the director of Individual Artist Programs for the Colorado Council on the Arts and Humanities



One of the most successful facets of the guild's programs continues to be its sponsorship of lectures and workshops by professionals both in and out of the field. In addition to technical workshops by artists of national and international repute, attention has been focused on legal issues for artists, marketing and promotion of work, gem identification, jewelry rendering, photographing artwork, stone setting and health concerns, among others.

In the Washington area, metalsmithing workshops were initiated by Carolyn Hecker, who, under the auspices of the American Craft Council, had invited Kurt Matzdorf to speak in 1976. She continued this practice upon establishing Greenwood Gallery in 1977. Hecker was responsible for the motivation behind the public programs of the Renwick Gallery in interfacing with local artists. After its formation the guild also began to participate actively with the Renwick Gallery, the Plum Gallery and Georgetown University in their programs of visiting artists and lecturers working in metal. This involvement provides invaluable opportunities for more informal, personal interaction with some of the leading artists in the United States and abroad. Plum Gallery also notes that the workshop raised their consciousness about jewelry techniques as well as esthetics, aiding them in their selling efforts. For the gallery, the guild was both an inspiration and a source for local and national artists.

Lloyd Herman, director of the Renwick, also provided encouragement to the fledgling WGG. The establishment of the guild, he now reflects, was part of a development over the last 10 years by local artists to improve their professional standards by forming and joining an organization. In the first year of the guild's formation, Michael Monroe, curator at the Renwick, addressed guild members on how to display jewelry, revealing techniques used by museum technicians.



Above Roger Kuhn, *Brooch,* sterling silver, enamel, ivory, 1982, 2x⅝x¼"; **Right** Betty Helen Longhi, *Upward Aspirations,* sculpture, shell-formed bronze with walnut base, 1981, 18x8x4½"; **Far right** Judy Frosh, *Necklace,* 22k gold with moonstones, alexandrite and demantoid in beads

Without a doubt, the unique political, social and geographic characteristics of Washington, D.C. contribute greatly to the success of the WGG. In fact, the guild responded to the need for a greater sense of local community in an area where priorities often revolve around more international interests. Washington, D.C. is too frequently identified only as the nation's capital, a city whose populace struggles constantly to assert its social and political independence. Yet as the nation's capital, Washington provides easy access to influential personalities, institutions and events. These extraordinary opportunities are easy to take for granted and, fortunately, almost impossible to ignore. It is the juxtaposition of these elements that created the perfect climate for WGG. What began as an effort to develop a sense of community grew to complement the well-established cultural integrity of a major American city. What is local is national, and the innocence of the WGG is nurtured by the sophistication and resources of the big city.

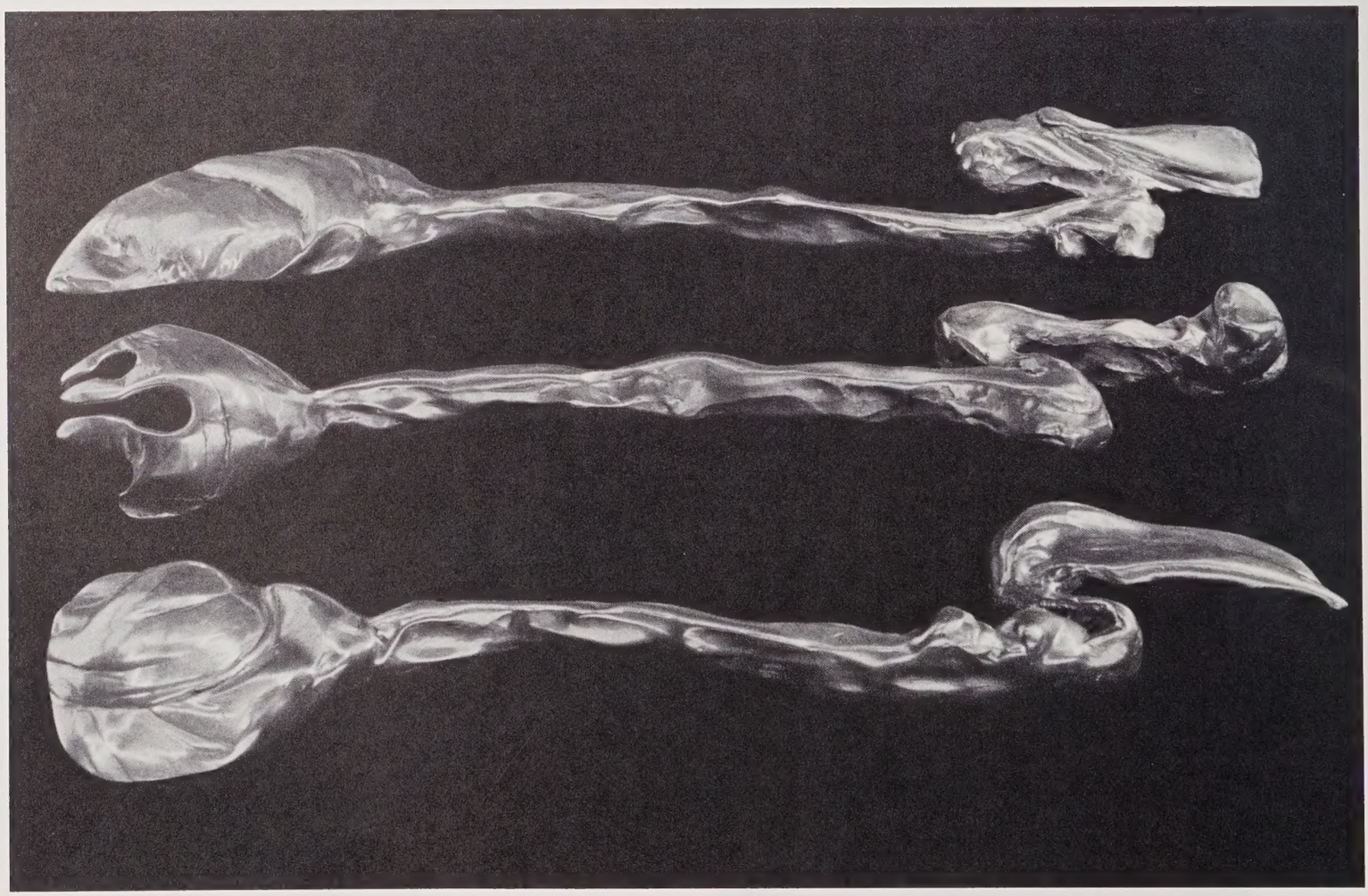
Collaborative planning and combined resources continue to enhance workshop, lecture and seminar opportunities for the organization. Of the last, the 1982 "American Metalsmithing and Jewelry in the 1940's and 50's" research conference, sponsored by the Renwick Gallery, The Archives of American Art, Boston University's Program in Artisanry and *Metalsmith* magazine, and hosted by WGG, is among the best remembered. These cooperative efforts result in education and exposure to talent that would otherwise not be possible, considering each organization's own fiscal, managerial and time constraints.

Interaction with the public began in 1979 when the guild exhibited its members' work in its "First Annual Exhibition" at the gallery in Glen Echo Park, Maryland. Only one year after its formation, the guild's entries reflected a marked increase in professionalism and artistic achievement, substantiating the expectations of its founders. Extensive participation as a member of the Creative Crafts Council of Washington's Biennial Exhibit further established the guild as a full partner in Washington's artistic community.

The guild's internal activities include meetings at which business is discussed, critiques of members' work are offered and slides are presented. Often at these meetings members exchange technical problem-solving information and thereby make choices about invitees to future workshops.

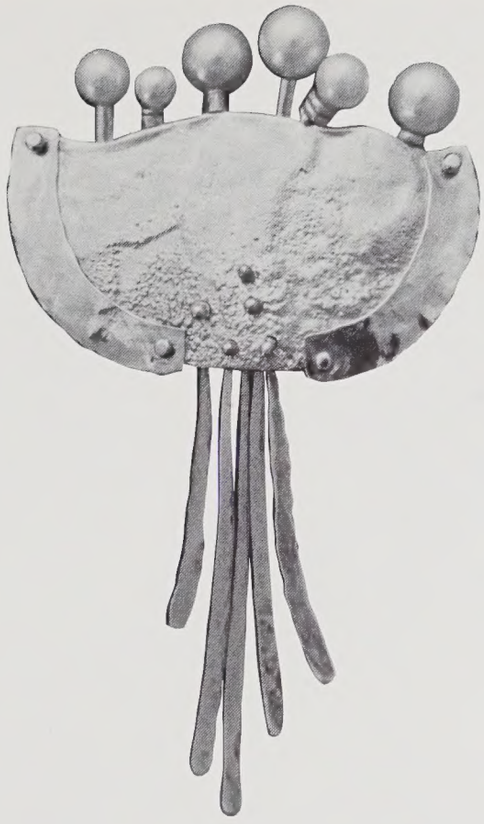
Following Raber's lead, Gail Goldman became president in 1980. Those first years were ones of discovery and growth, both for

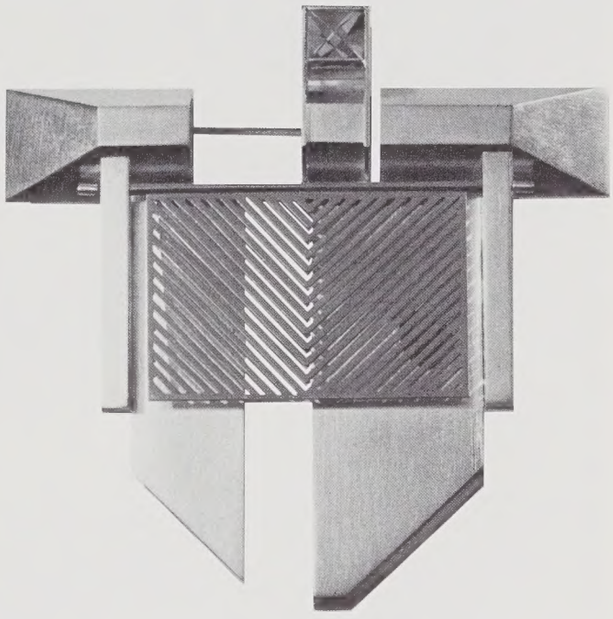
Anne Krohn Graham, *Pelican*, sterling silver stacking knife, fork and spoon, 1981, 8½x2x1½"



the organization and for its individual members. Goldman issued a questionnaire from which she was able to ascertain member needs. Under her leadership, the guild began to focus on education through an expanded workshop program. Through word-of-mouth and public exposure, the guild established an active identity within the metalsmithing field. In 1982, it sponsored its first professionally juried show, one of the many visible signs of its success. "Metalwork 1982" held at Montgomery College in Rockville, Maryland, realized one of the basic goals of the WGG. In the quality of the work, the production of the exhibition and the response by viewers and critics alike, it forged an alliance among guild members, the arts community and the audience. As a result of this show, unsolicited invitations to WGG members to exhibit work on a regular basis came from two of Washington's leading galleries, the Plum Gallery in Kensington, Maryland and the Mimosa Gallery in Washington, D.C. These two galleries have subsequently contributed significantly to the growth and importance of contemporary American jewelry and metalwork in the metropolitan Washington area.

Under the current leadership of Joke van Ommen, the guild has refined its objectives, particularly in its internal communication, increased its services and strengthened its visibility. The newsletter, at first literally a letter from the president outlining guild activities, is now an impressive 10-page publication, including information on forthcoming workshops and courses, special reports on conferences and seminars, announcements of exhibition and sales opportunities, critical reviews, technical discussions and illustrations, classified ads and an events calendar tailored to the interests of the metalsmithing community. The guild has recently published a handsome membership directory, which not only lists names and addresses of its members but also includes resource directories for periodicals and for national and local organizations relevant to the field of American crafts.





Above left Becky Thatcher, *Crab Brooch I,* silver, 14k gold and cultured pearls, 2x3x1¼"; **Above right** Gretchen Raber, *Brooch,* sterling silver, 18k gold, tourmaline; **Left** Christine Thrower, *Penannular,* sterling silver, 1979, 3"d.

Acknowledgment of the creation and development of the WGG only begins to define its critical role in the professional growth and personal fulfillment of those individuals associated with it. The real success of the guild is predicated on the strength of its leadership, the interest of its followers and the unique quality of the parts that comprise the whole. Bonded by a common denominator of personal trust and respect, the guild functions as a community in and of itself. Whether it addresses education, service, community interaction, promotion or visibility, the Washington Guild of Goldsmiths has achieved an identity and nurtured the pride and loyalty so necessary to counter the challenges imposed by today's social and economic realities. ■

The Washington Guild of Goldsmiths' Membership Directory can be ordered from: WGG, Studio M-1, Torpedo Factory, 105 N. Union St., Alexandria, VA 22314; include $1 for postage and handling.

Metal Spinning

by James Seavey

Last of a three-part series

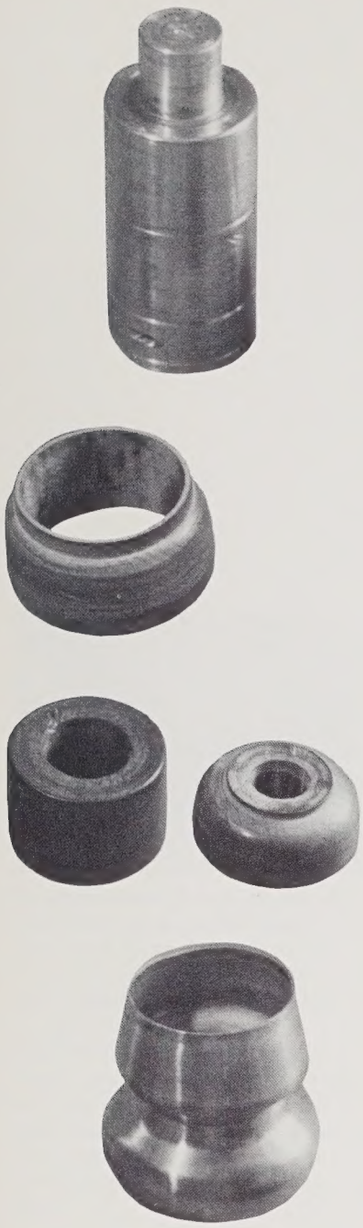
Coffee Service by the author commissioned by the Brockton Art Museum with a grant from the Massachusetts Council for the Arts and Humanities, 1983. All of the spun forms (including the tray ends) were made on existing chucks with temporary modifications (rings, special follow blocks) by spinning on air

James Seavey is a graduate of the Rhode Island School of Design where he studied with John Prip. He has worked as a designer-craftsman for Gorham Silver and Old Newbury Crafters and as a plant manager for Faithcraft International. Currently he makes and markets pewter holloware under the name Halibut Point Pewter in Gloucester, MA

As skill develops in spinning, it becomes more important to have a sense of what forms can be produced. To fully appreciate the range of shapes possible, a thorough knowledge of tooling is needed. "Tooling" denotes the specialized tools needed to perform a specific task, as opposed to "tools" which are the hand devices or machines capable of producing varied results in a variety of ways. In spinning, the lathe and spinning tools are *the tools* and the chucks and follow blocks are *the tooling.* Because the process of spinning requires the skilled use of tools, the tooling can be used in a more varied way than can be expected from other processes. The chuck is actually a one-piece die, either male or female, whose counterpart is replaced partly by the follow block and partly by the movement of the spinning tool. By combining different chucks in sequence, varying the amount of metal "laid down" (in contact with the chuck), by adding or removing parts of the chuck, using a variety of follow (tail) blocks, and/or by spinning on air, it is possible to make a given chuck perform many functions.

The simplest form of chuck is a plain cylinder of any depth or diameter. Next in complexity is a truncated cone, then a cone with concave or convex sides and, finally, cones with combinations of curves and straights. As with any type of mold or die, undercuts must be handled in special ways which allow the removal of the shell without locking it onto the chuck.

Shaped follow block: chuck originally used for a salt shaker. The shell is first spun as far as the shoulder with a normal follow block, which is then replaced with the one shown and the shell worked back over and trimmed. The original block is then replaced and the edge rolled in to form a bead



Combination cylinder/plug chuck with sleeve and two plugs used to form shell shown

The chuck can be made of any machinable or castable material with sufficient strength and resiliency to hold up to the job at hand—one-time use or up to hundreds of thousands of repeat operations. The most common chuck materials are hard maple, aluminum, steel or compressed fiber. Also used are nylon, epoxy, plywood, masonite, fiber-reinforced polyester resin, hard rubber and so on. Hybrid chucks of more than one material are also used, particularly wood covered with brass or steel; steel, aluminum or wood with nylon or other plastic; and steel or aluminum with epoxy, polyester, flexible rubber or wood.

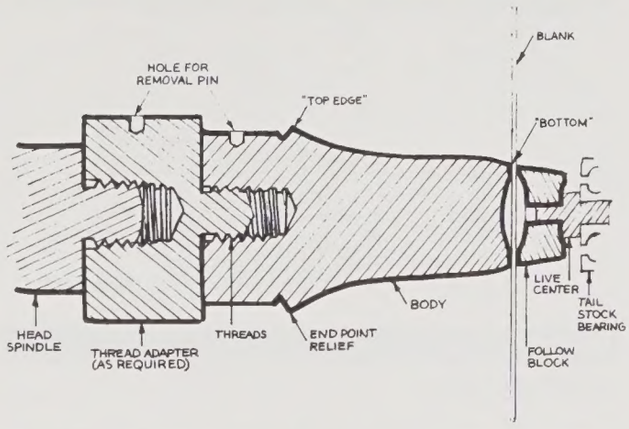
Material choice depends on availability, ease in forming, type of chuck, forming resistance of the material to be spun, amount of use, weight and surface finish or tolerances required. Soft materials are usually readily available and easy to shape and may be clad by spinning brass or mild steel over the surface: they are not very durable and may leave distinctive textures on the inside of the shell. Harder materials tend to be more expensive, harder to form and heavier, but are very durable and precise.

Chucks may either be threaded to accept the head spindle of the lathe (or adaptor), mounted on a faceplate, fit into a hole or collet, or fit over a pin or shaft. Sharp corners on a chuck will tend to cut through the metal being formed (the blank), especially near the center. A sharp corner on the shell can be formed by the proper use of the backstroke over a shoulder on a chuck with a fairly large radius. The chuck may be notched in a ring, or relieved, at the desired end-point of the shell, to act both as a guide in trimming and to allow the proper placement of the trimming tool. If the shell is to have a hole or holes in the bottom, appropriate pin(s) can be placed in the chuck and holes punched or drilled in the blank to match, thus eliminating the need to center. The follow block should be relieved to accept the pins.

In preparing material to be fashioned into a chuck, the first step, once the proper size has been achieved, is to drill and tap or machine female threads to accept the head spindle. An alternative is to drill an oversized hole in the chuck material, apply release agent to the head spindle, spread a catalyzed epoxy-metal powder mixture to the spindle and in the hole in the chuck blank, and clamp the blank in place in the lathe with the tail stock. When the epoxy has set, if the chuck is of a soft material (wood, aluminum, some plastics), the chuck can be turned right on the lathe and removed by unscrewing (overtight chucks are removed by tapping a center punch placed in a predetermined spot on an unused surface of the chuck: the tighter the chuck is wedged on, the bigger the hammer). Care must be taken to temporarily fill any undercuts with clay or wax on the spindle threads. Otherwise, when filled with epoxy, the chuck would become locked onto the spindle. Be sure there is enough material beyond the threaded hole in the chuck to turn the desired shape without cutting through. The chuck can be formed on a machine lathe as well, provided the area gripped by the lathe chuck is concentric with the threads cut in the material, or an adaptor is used that allows the direct mounting of the chuck blank onto the machine lathe spindle.

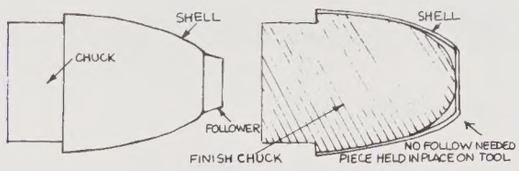
Follow blocks can also be made from a wide variety of materials, preferably light, tough materials such as nylon, hard rubber,

Typical Chuck Cross Section

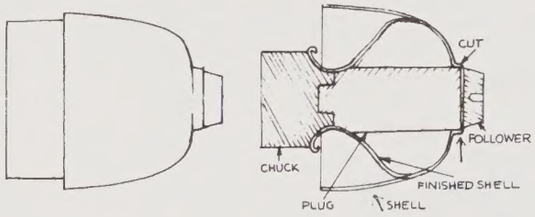


Breakover Chuck Applications

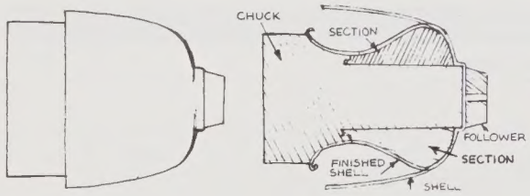
A Round Bottoms



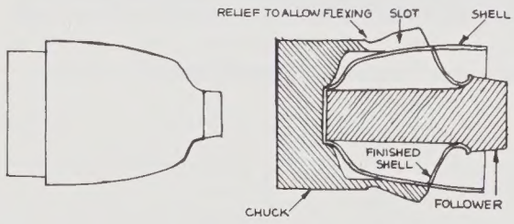
B Plug Chuck Preform



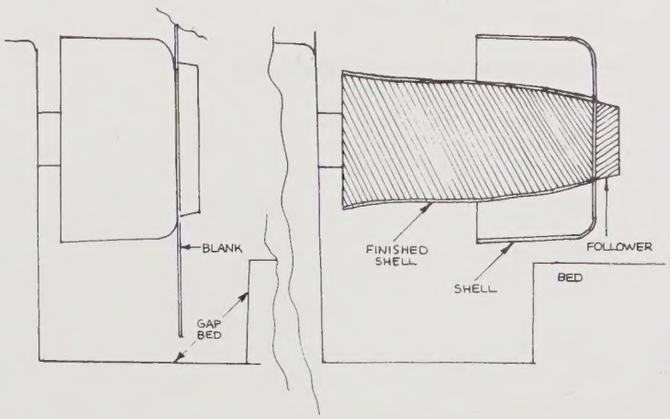
C Section Chuck Preform



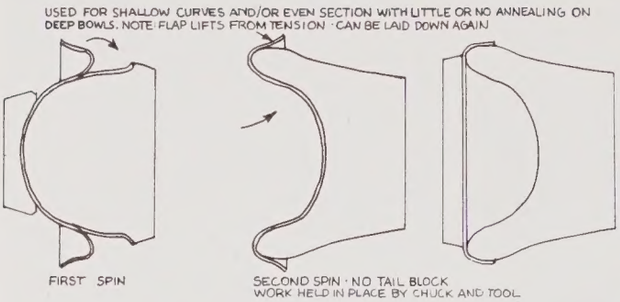
D Slotted Holding Chuck Shaped Follow Block



E Gap Bed

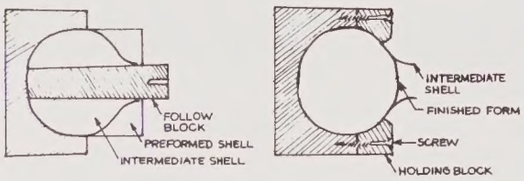


F Stretching

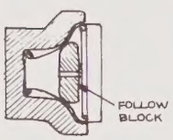

USED FOR SHALLOW CURVES AND/OR EVEN SECTION WITH LITTLE OR NO ANNEALING ON DEEP BOWLS. NOTE FLAP LIFTS FROM TENSION · CAN BE LAID DOWN AGAIN
FIRST SPIN
SECOND SPIN · NO TAIL BLOCK
WORK HELD IN PLACE BY CHUCK AND TOOL

Holding Chucks

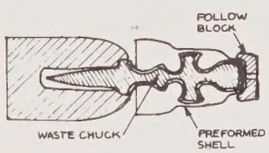
A Closing a Sphere



B Rolling an Inside Bead

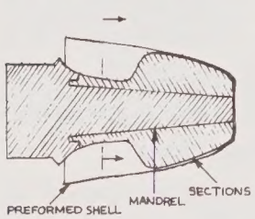


C Waste Chuck

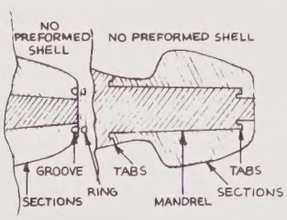


Section Chuck

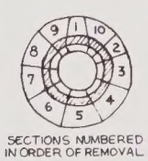
A Typical Section Chuck



B Ring Alternative + Double Tab Alternative



C Midsection with Mandrel Removed



compressed fiber, aluminum, hardwood or plywood. With flat-bottomed chucks, the block should be the same diameter as the bottom, and often the interior portion of both the block and the chuck are made concave, that is relieved, to aid in centering and to reduce marring of the blank. On convex chucks, it is necessary to have a concave follower; sometimes it is possible to start with a small follower, then switch to a larger one which covers most of the area already laid down. In either case, marks left on the bottom area of the shell can be removed by planishing after the rest of the shell is complete and the follow block removed. Round-bottomed forms may also be made by using a breakover chuck. Specially shaped follow blocks are used to form shells with reverse curves. The convex shape is first spun with a normal follower; then a follower which conforms to the laid-down portion of the shell and the desired reverse curve is exchanged with the first: the follow block then acts as chuck, the spinning being done towards the tail stock.

Chucks used for preliminary forming are called breakover chucks. They are usually made of wood. As the surface quality can either be improved on a metal final chuck or will be out of sight on the finished shell, accuracy is also often less critical. Breakover chucks are most often used in conjunction with plug chucks and section chucks, or where it is necessary to have a thicker section on the finished shell in places which would normally tend to be thinned. Other uses of breakover chucks are to provide predetermined annealing points, to form parts to be completed by other methods and to allow spinning deep forms on a gap-bed lathe. Concave breakover chucks are used to form shallow bowls: The blank is first locked into place over the rim by spinning; then the follow block is removed and the disc pressed in from edge to center, much as with dapping (sinking).

Plug chucks are two-part chucks held together by a central pin and tail spindle pressure; they are used to form necked tubular shells. The parts are made to separate at the narrowest part of the neck—the bottom of the shell is cut off to allow the plug to be removed from the shell. The pin is usually set in the plug to allow other uses for the body of the chuck.

Section chucks are used when large production runs of precision necked forms are needed. They are usually made of hard maple or maple sections on a steel mandrel. For high production they are occasionally made with nylon or steel sections. Considerable preliminary work is required to prefabricate the sections and temporarily join them in order to machine, shape and fit the mandrel. Unlike with the plug chuck, here the sections part from the mandrel (which also forms the upper part of the chuck) anywhere on or above the narrowest point of the neck. The sections have a tab which fits into a ring recessed into the face of the mandrel at the separation point. The mandrel may be cylindrical, but is most often slightly tapered. In order to form the sections from maple, they are formed all at once to the proper shape and to fit on the mandrel. The entire piece of wood is removed from the mandrel and then split lengthwise to form the sections. The key section, removed first from the shell (after the shell and sections have been removed from the mandrel), is made with edges angled wider at the center and narrower at the outer diameter. The key

section must be small enough to allow for removal from the shell with all the other sections in place, yet large enough to allow the removal of the second section (which is not usually next to the key section). This limits the relative diameters of neck and belly for shells formed, although necks can be further reduced on a holding chuck. Usually the sections are held in place at the bottom by a previously formed shell which conforms to the sections up to the widest point and continues from there a straight cylinder of sufficient length to form the neck. A small ring, able to fit through the neck of the finished shell, can be used to hold the sections together at the bottom by fitting into a groove at the inner edge of the sections. This eliminates the need for a breakover chuck. Because section chucks are complicated and time consuming to make and use, they are avoided whenever possible. While several standard alternatives are available, I have designed a sleeve or ring chuck which is particularly flexible.

As already mentioned, holding chucks can be used to neck or completely close straight-sided shells, and are often used in conjunction with special follow blocks. Holding chucks are usually concave and either fit the entire shell snugly or at stress points only. Often slotted radially to provide spring-like fingers for a tighter fit, they are sometimes lined with felt for the same reason and to minimize marring the shell. The areas of the shell protruding from the chuck can be worked to almost any shape, usually on air, sometimes with specially shaped followers. Other uses include turning under rims, assembling two or more parts and holding expendable chucks.

Waste, or expendable, chucks are usually made of cheap, easily formed or molded materials and are included as part of the final product. Of course expensive, finely finished materials *can* be used. They are used when the shell is of extremely complex design or when some property of the waste chuck itself is desirable.

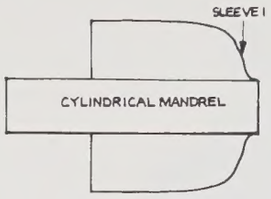
The cylindrical chuck is the most versatile when used as a mandrel. With this chuck the position of sleeves or rings can be changed during the course of the spinning to form a great variety of shells. The sleeves can be held in place with bands of masking tape on either side, set screws or a simple friction fit. One sleeve may act as a mandrel for another and may have any contour, the only rule being not to lock the ring into the shell by spinning into an undercut (unless, of course, the ring is a waste chuck). Rings can be made of an elastic material, locked in, and then removed after the shell has been removed from the mandrel. The rings act as integral backsticks to support the work in progress. The use of concave follow blocks to act as holding chucks can aid in maintaining control while using sleeves or rings (or, when the rings are removed, spinning on air). To fully utilize this system, it is necessary to have mastered the skill of spinning on air. In a sense, all spinning is spinning on air in that the workpiece is not in contact with most of the chuck during much of the forming process. ■

Note new source for used lathes: Hayden Machinery, Meriden, CT 06450

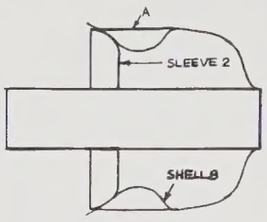
A plug chuck (center), clockwise: the plug; a shell made on the chuck (note the open end—the wrinkling in this case is from hammering); a ring made of polyester resin which fits flush with the shoulder of the chuck; a similar, smaller polyester ring with a brass covering; and a nylon plug which is actually a small chuck held in the lathe in the plug chuck center hole

Sleeve/Ring Chuck

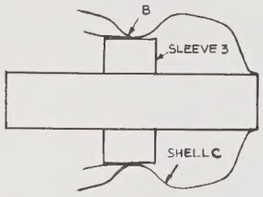
A Sleeves for Precise Forming



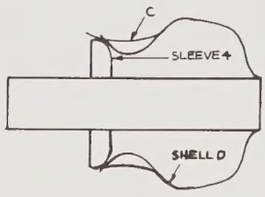
B Shell Preformed on A



C Shell from B

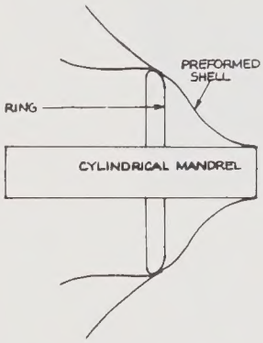


D Shell from C



Rings for Support in On-Air Spinning

A Ring/Preformed Shell



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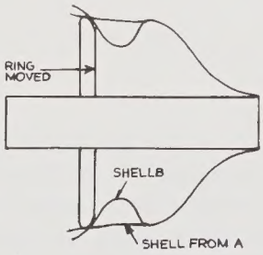
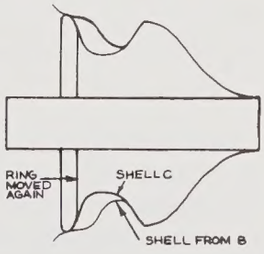
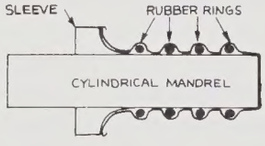


C Shell from B



Rubber Rings for Ridges

A Shell Preformed over rubber rings, remove shell from mandrel and pull rings out



Deborah Aguado
A Perceptualist's Use of Image and Enigma in Jewelry

by Akiko Busch

Stone, metal and space compose the careful balance in Deborah Aguado's work. Her first geometric formalisms constructed in metal were developed in 1973 when she participated in a goldsmithing seminar at the Akademie für Bildende Kunst in Salzburg, Austria. They resulted in a series of two-inch metal squares, called *Constructions I, II* and *III*. In retrospect, Aguado sees these as "process pieces." She realized that sketching on paper could not reveal the density, hardness, proportion and the effect of the third dimension that the metal construction would.

Her concerns evolved into the study of perspective: geometry altered by distance, time and space. A perceptualist's interest in the "moon illusion" (when the moon appears to be closer to you when you see the horizon) became a formula for a new series. Railroad tracks are usually used to depict two parallel lines converging and the railroad tracks became the leit motif on which the *Night Train* series developed.

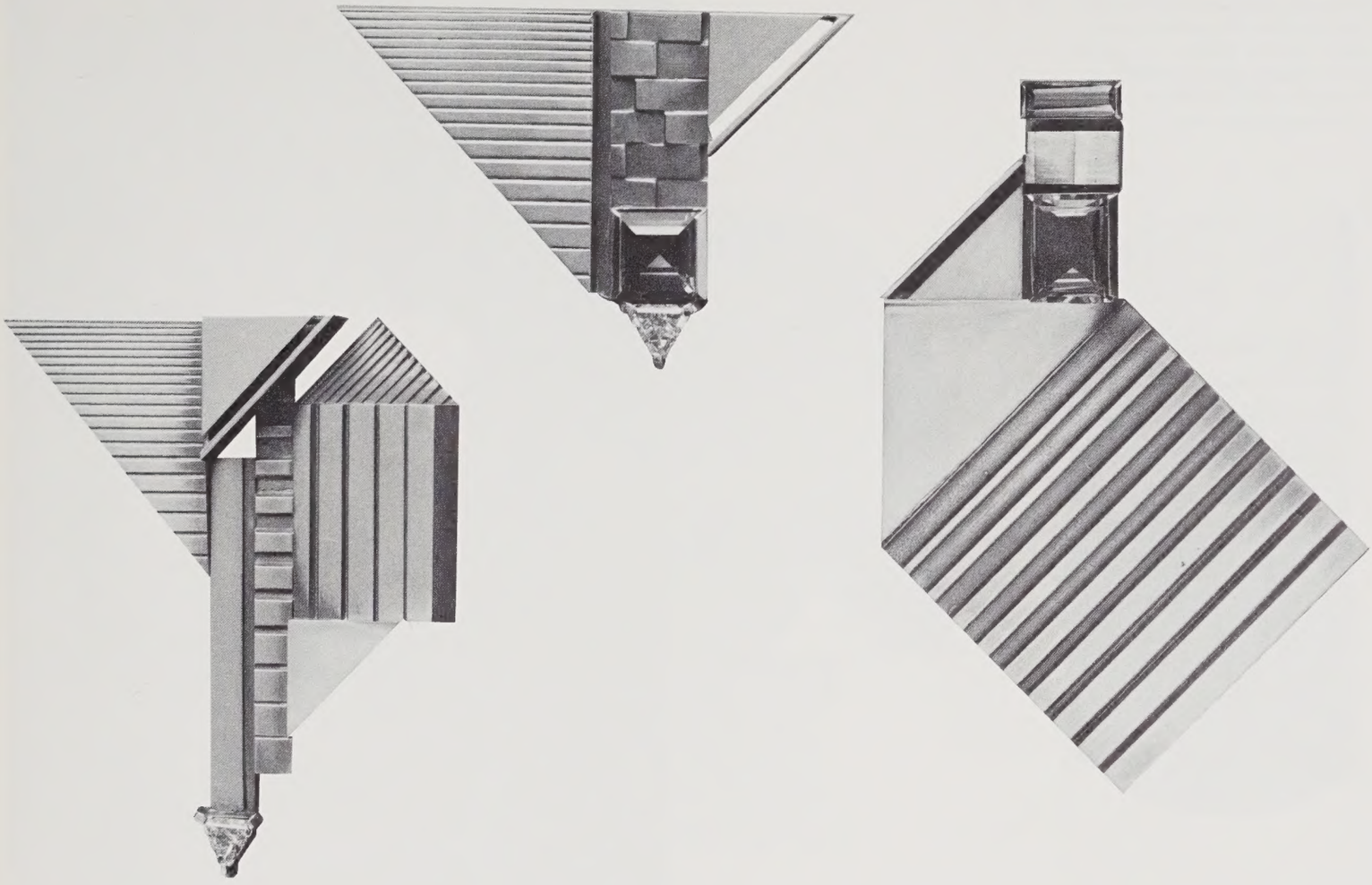
In 1981, Aguado was asked to develop a program for the American Craft Museum to celebrate its 25th anniversary. As program director of "Craft in Process" and artist in residence in metals that summer, she developed a body of work, primarily the *Night Trains*. Witnesses in the form of working assistants and observing public and a 10-week time frame provided vital reinforcement.

Facade I, planes are defined by nickel and silver, 1979–80

Opposite, left to right *Facade II,* sterling silver, 14k and 18k gold, cubic zirconia, 1982; *Facade IV,* sterling silver, 18k gold, madeira citrine and cubic zirconia, 1982; *Facade III,* sterling silver, 14k pink gold, 18k yellow gold, pink tourmaline, green citrine; striped metals are 14k gold, sterling silver, copper and nickel

All pieces shown actual size
Photos by Bob Hanson

Akiko Busch is a freelance writer based in Manhattan



Besides referring to placement in time and space, the *Night Trains* can be either a literal railroad iconography or they can depict a grill, cowcatcher, reference to a tunnel or dream railroad yard, where advancing or receding trains have been translated into jewels. A large circular stone suggests a headlight; the markings of an agate refer to a landscape; the vanishing point is suggested by the graduated linear design of a silver trapezoid.

Aguado develops her work on graph paper. This grid system becomes the format for the vanishing-point drawings to which the *Night Trains* relate. These angles made by the converging lines of the drawing determine the size and proportion of the piece of jewelry and its potential placement on the drawing. The *Night Trains* are wall pieces when not being worn.

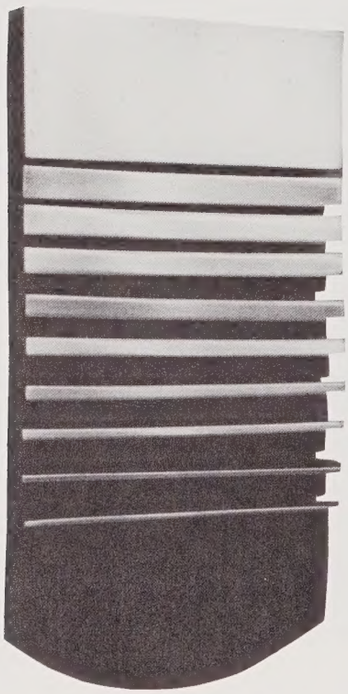
In the *Facade* series that followed, "a repertoire of the patterned surface" evolved from the graduated and geometric linear elements that had formed the *Night Train* series. And though more abstract and less illusionistic, this series continues to study the effect of surface pattern and plane. While the *Night Trains* were explicit illustrations of perspective, what followed are more allusive studies of surface.

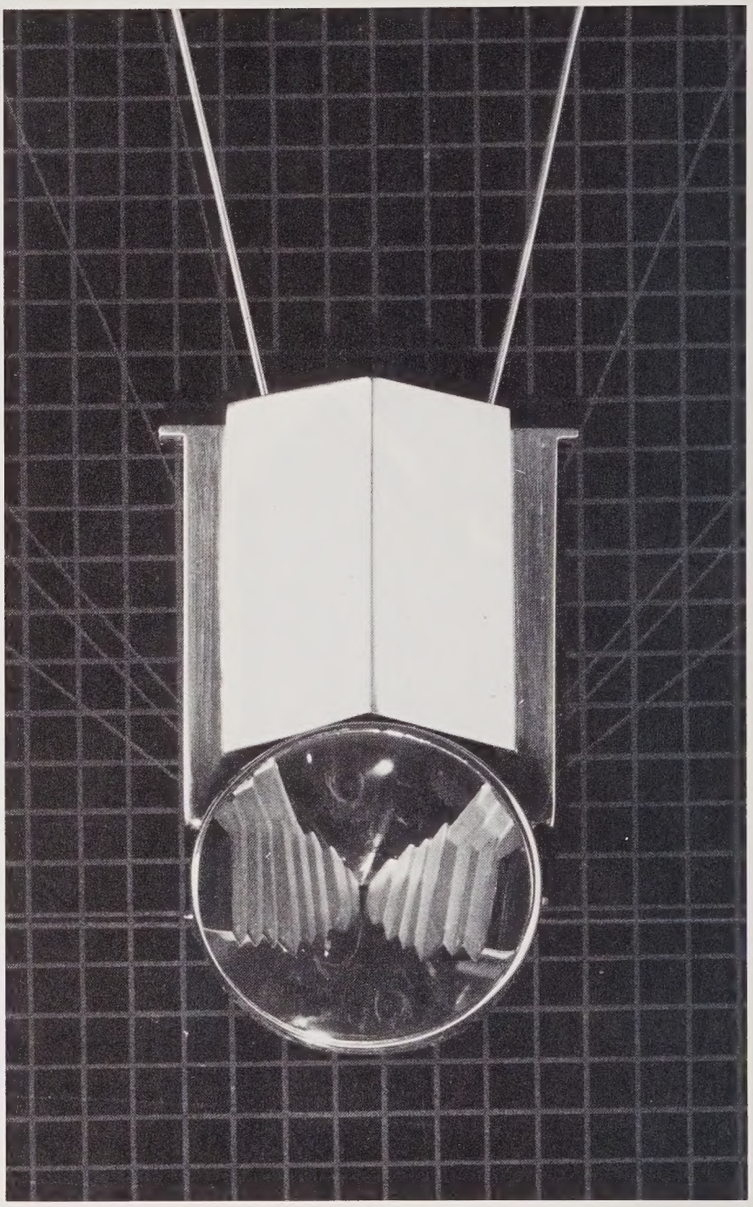
The severe linear elements that had suggested landscape in the *Night Train* series are exploited in the *Facade* series for their pattern, which when cut apart and repositioned with added dimension affected a new planal integrity. Planes were determined by the various components, Aguado explains "in the way one might apprehend surfaces of the city landscape as affected by light, movement and one's position." The juxtaposed planes and subtle angles are affected by the reflections of light they cast upon one another. They are defined even more, however, by what Aguado calls "viewer position dependency": Assorted planes attract light as the viewer, or wearer, changes position.

Facade III is a further reduction of *Facade II*. Having the same 18-karat gold triangle and silver stripes as in the earlier piece, this study has been made more luxuriant with the use of gems. Fourteen-karat pink gold, copper, nickel, silver, a pink tourmaline and a green citrine compose a piece richer in color, but one simpler, more reductivist in form. A textured square surface gradates into a triangle, and that to a series of smaller squares and stripes. *Facade IV* is an even more concise conclusion in its series of reduced triangular planes.

While these inquiries into space, light and distance suggest that these pieces could be models for larger sculptures, one is inclined to agree with Aguado that

Below *Louver II,* silver. The negative-positive hinged structure renders this piece organically flexible. **Right** *Cowcatcher,* constructed sterling silver pin, stored on 9x12" formica drawing when not being worn





their current scale is satisfying. She further observes that were these pieces to be translated to a larger scale, a form more appropriate than sculpture would be architecture. Although she has built two- and three-foot sculptures, she found their materials—steel cable, plexiglass and aluminum—less provocative than the gold, silver and precious materials she had become accustomed to. The intimacy and preciousness integral to her smaller pieces were lost.

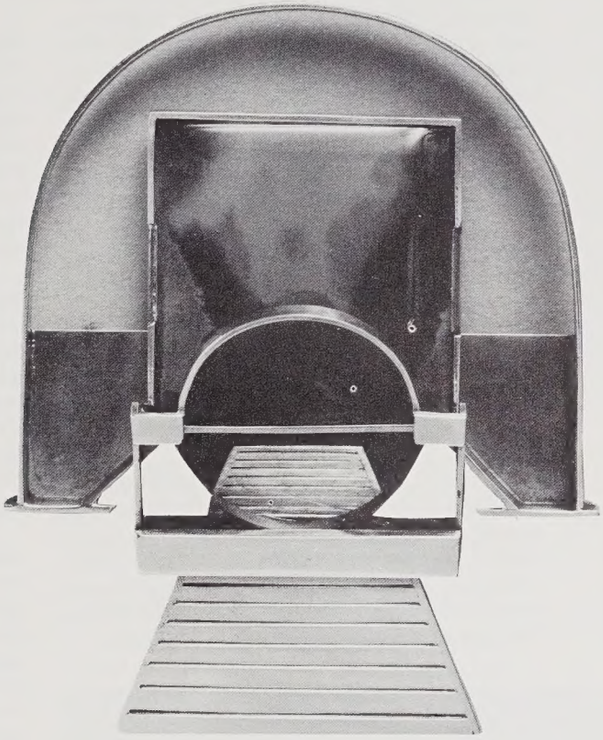
Nevertheless, the precise sightlines, viewer position dependencies and engineering feats that some of her forms and angles suggest continue to convey architecture. *Penzoil I* is a reference to Philip Johnson's Penzoil towers in Houston. These two monumental towers stand with a narrow strip of air between them: Depending on the viewer's position, they can appear to be connected or to have a column of air separating them. Aguado's piece evokes the same enigma, though more intimately. A wall of 18-karat gold fronts a column of oxidized silver. Their connecting line depends upon where you are. Topped by an elegant magenta alexandrite, the piece is minimal yet opulent and luxurious, conveying an exotic contradiction and balance.

Aguado's pieces begin with rough sketches which she translates directly into metal. Despite their final precision, there are no precise renderings or models. "The metal itself is so informative," she explains "that models rendered in other materials which would forfeit its weight, color and balance would be extraneous at this stage." Yet when she feels she is not clearly visualizing the piece, she will make notes about what she feels the final piece should convey. Proportions are easy to sketch; visual illusions are not. Through words describing the intended visual effect, supplemental materials such as gemstones or acrylic are selected to convey the idea. She concludes: "Since heavy materials are used—metal and stone primarily—I continue to strive for an effect of visual delicacy."

Aguado creates rings to convey similar visual enigmas. She has constructed a large, man's ring, for example, as a silver box shaped to fit the finger. Where a stone might be, a mixed-metal plane recedes into the face of the ring. In another, a large, murky pearl has been set simply inside a silver box, as one might place a specimen in a laboratory case. She presents the mineral clinically, candidly. "If the interest is the rarity of the mineral or specimen, I don't want to intrude."

Aguado enjoys using rare and unusual stones which are either naturally phenomenal or unique in their cutting. She feels that when a client purchases a piece made by her with a stone cut by Bernd Munsteiner, whom she considers to be one of the best contemporary

Rangefinder, silver, landscape agate, smoky quartz, hinged construction



gemstone cutters, they are in effect investing in the work of two artists.

Aguado balances her own studio work with private classes. She is a member of the faculty of the New School/Parsons School of Design where she spends two days a week and has recently completed her master's thesis, "A Survey of the Jewelry Industry and the University Curriculum toward Restructuring the Training of Artist-Jewelers for Career Opportunities within the Jewelry Industry." "I'm interested in three things," she explains: "The education of young jewelers; the quality of the jewelry that is available to the public; and that there is more work for university graduates in this field."

A studio assistant and one intern from a university apprenticeship program usually assist Aguado in her studio. "For many reasons" she maintains, "it's reinforcing for goldsmiths to have others around, to share in the agony and the joy. . . . Because the concentration of working at such a small scale is so intense, I find it comfortable and rewarding to sometimes have someone else there while working."

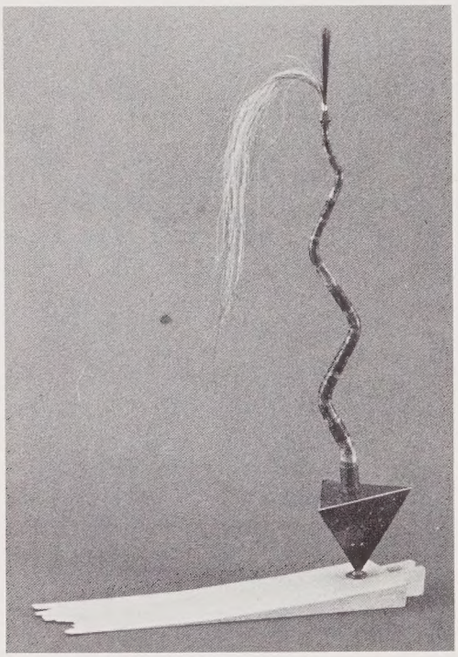
Themes like those found in *Night Trains* and *Facades* are not originally conceived as belonging to a series. Rather, the series develops from an initial idea or visualization and continues, depending on what there is to sustain its growth. Currently, she is developing a series of sushi jewelry. A brooch of oxidized silver inset with carnelian and hematite spheres still on her bench, has a glittery wetness and freshness which clearly evoke salmon roe.

And there is the most recent piece, with a large 20-karat blue topaz cut by Munsteiner. The stone is held by a tapered baguette that pins it into a long slot cut in a silver wall. The slot is cut and tapered exactly to correspond with the cutting of the stone. Another wall of patterned silver topped with an 18-karat gold bar juts out of this silver wall at a 60 degree angle. The piece is a minimal, linear continuation of the planes and undercutting in the stone. Two lines cross each other according to the stone's configuration and then continue to influence suggestions of congruent triangles. It resembles a monumental girder and refers to astute engineering skills.

In allowing the piece to emerge from the stone, Aguado demonstrates her recognition of materials that define their own terms. It is this continuing recognition: the familiarity with material that permits the easy coincidence of economy and luxury; the effect of surface pattern and plane; the choice of material supplemental to metal that enable her to achieve the visual enigmas so important to her work.

Exhibition Reviews

Christine Clark and Dennis Leudeman
Merritt Gallery, Rochester, New York
May 13–July 12, 1983
by William N. Mickle



This exhibition of two sculptors at the Merritt Gallery constituted the first major showing of work by either artist. An almost overflowing display of 25 floor and pedestal pieces ranged in height from 6 inches to 10 feet. There was more than ample opportunity to get to know each artist. The majority of work was oriented toward the personal dilemma, though some reached to more universal issues and personal observations of the world.

All of Clark's sculptures were dream images, subconscious issues solidified into metal and plastic. Several were large, imposing, complicated structures that took considerably more viewer involvement to discover than the larger collection of small, even petit, delicate works. Her skill in composing still-lifes out of a minimum of real elements (lifesaver, shirt, door) is considerable. These elements are placed in landscapes of sweeping, gestural planes of clear plastic used to bring action and location and thereby respect to the dream fantasy.

Color is of major importance to the work, and Clark utilizes it with finesse. Pastel shades, color gradations, colored metal frames, soft and rich as well as bold and bright tones—all are worked skillfully to match a mood and subject. The frames around which the scenes are draped resemble bedposts, tables, door frames and cages. Their colors emphasize the changes often found in the profiles of architectural details. These references are important to each statement Clark makes. Her compositions speak simply of repose or a frozen activity or thought. Surrealistic drama is handled elegantly in *Party Dream,* where the stage is very tranquil. The floor slips and slides like hallucinations, and, as in dreams, we do not question what may not fit into our reality.

Just about the only common territory between the two artist's collections is the use of machined elements. In neither case is there a sense of the "machine esthetic"; rather, these components and details are integrated well enough within each piece to be comfortable and unquestioned. Only in a very few is it overdone. Clark's use of machined elements is intricately and intrinsically involved. Leudeman uses them more as detail and as carved forms.

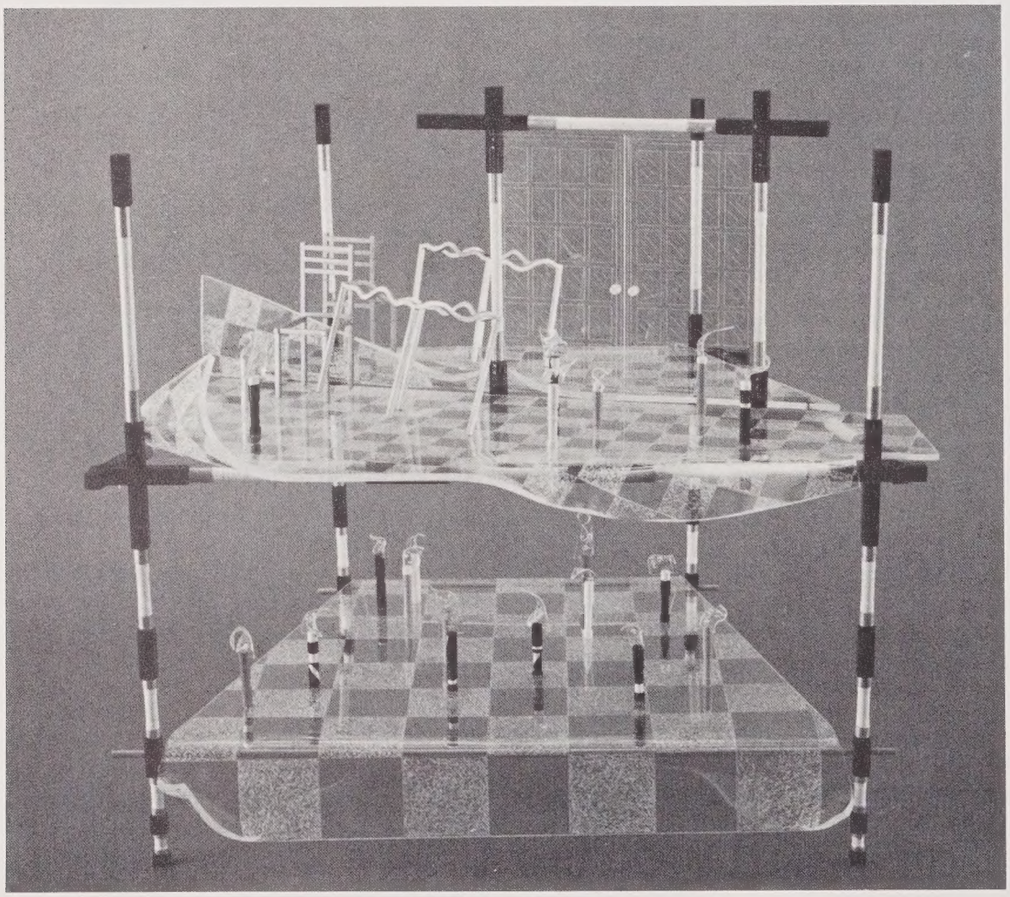
Where Clark is so at ease expressing her fears and thoughts on a personal scale, Leudeman is as adept at creating large, formal outdoor sculptures. These tended to be elegant and strong, consisting of solid geometric form with clean profiles. Although few, they admirably realized monumentality. The use of found objects was kept to a minimum, whereas on the indoor sculptures their use became overactive.

The indoor works displayed a complicated array of textures and forms that made the viewer work hard to understand. These constructions involve forged rods and many found elements, from old tool parts to machine refuse to painted volumes of unknown origin. Many of these are combined in a single sculpture through stacking, stuffing, lashing and jointing.

Leudeman seems to focus on the world where the clean, colorful and cooly composed exist next to the rough, hard and deteriorated. This could be the human condition and it could be a projection of our future. Some seem to be totems: Through their journey from floor to sky each segment generates the next, each stage telling a story or evolution. Leudeman's colors are purposely obfuscated, allowing only clues and fragments from the titles and found or manipulated materials. Titles related to personal and humorous viewpoints, such as *Hiding Out* and *Lonely Fronts.*

Tetrahedron with Spots and a Tail is his most confident and simply stated indoor work. An inverted volume sits lightly on a found wood base. Sprouting out the top is an undulating taper banded in sensitive gradations of blue and purple, pink and turquoise, ending in tufts of black and white hair. It is a fun and intimate piece. Some of these sculptures seemed too imposing for interior spaces, though, with too many elements and transitions.

In this exhibit, sculptor and gallery made a strong statement. Both artists have what could be considered a crafts background. The gallery is one of the oldest jewelry-related galleries in the country. Clark and Leudeman clearly demonstrated that their art exists in many materials on either large or small scale. Their works did not speak of technique or puns on metalsmithing tradition. Any and all materials can be considered with equal weight in the decisions that create their work. With this show the Merritt Gallery has presented interesting and worthy work that crosses old and failing boundaries of established craft and art. Together I felt this show made a strong argument about a new field that will become more widely apparent within this decade. ■



Top Dennis Leudeman, *Tetrahedron with Spots and Tail,* steel, brass, silver wood, hair, 24x16½x3½"; **Above** Chris Clark, *Party Dream,* acryiic, painted brass, bronze, 18x16x14

Carrie Adell: Energies of Transformation
Contemporary Artisans Gallery,
San Francisco
July 27–August 20, 1983
by George McLean

Carrie Adell is perhaps best known for her jewelry which transforms common, familiar, organic and geometric objects and forms into interesting and wearable jewelry. Her work ranges from simple to flamboyant, classic to outrageous. This exhibition departed from the established mode and dealt with her attempt to make a stronger, more personal statement in just six pieces. The title was well chose, for it described the exhibit on several levels: the artist's creative act and the underlying theme of nature's energy. The interpretations were generally romantic and painterly compared to the graphic presentations of past work.

Initially the pieces struck me as a return to the 60s and the organic cast forms so popular then. However, the scale, technical skill and intellectual involvement took this work out of that era. Of the six pieces in this small show, four were jewelry, one an object/container and one a piece of sculpture. The sculpture, entitled *Carried Around,* was an orphan; it did not seem to relate to the other pieces in content or technique, other than being a "personal statement." If sculpture is part of Adell's new direction, I wish there had been more to see.

A neckpiece *Around the Bay* and the object *Another Box of Rain* were technically well executed and invocative of the natural forces of rain and landscape, but suffered from the use of a commercial chain that was too familiar and too obvious in addition to being out-of-scale. *A Rocky Place,* another neckpiece evidenced considerable skill in the integration of Biwa pearls into the dense, forged silver formation. It was an elegant interplay of color, form and surface. This piece, interesting in itself and a beautiful, strong adornment, is perhaps so strong that the focus would be on the piece rather than enhancing the wearer. The possessor certainly would not shrink from being the center of attention.

Sun Dagger, A Solar Marker, was a powerful neckpiece with imagery based on archeological finds. The execution was more direct, almost primitive in reaction to the symbolism. Again, however, the imagery was so strong that it was difficult to accept as a piece of jewelry to be worn.

The final piece *Solar Wind,* was a body piece that consisted of two units that could be worn in front and back connected over the shoulder by a series of chains, or detached and each unit worn separately. Again, the selection of the chain was not as subtle as it might have been. In this case, however, it is a minor criticism since this was a truly elegant piece. The forms, surfaces and color created a most sophisticated statement of spirit and joy and would enhance the body.

This show was a very courageous undertaking for the artist, to pour all of her creative energy and time into a few pieces of such power that would precipitate such strong viewer response. ■

Janice Kluge:
Metalwork and Sculpture
Birmingham Museum of Art,
Birmingham, Alabama
July 10–August 20, 1983
by Heather McPherson

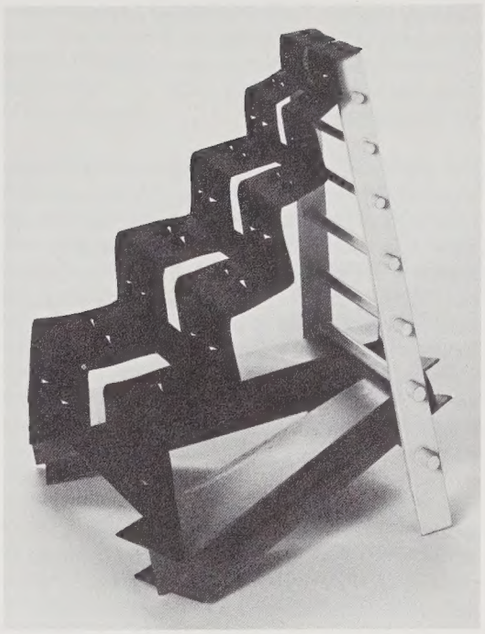
Janice Kluge's exhibition of metalwork and sculpture at the Birmingham Museum of Art was small in scale but rich in variety and execution. The 11 pieces and drawings, from 1981–83, illustrated her ongoing involvement with natural themes and her experimentation with various materials and metalworking techniques. Kluge did her graduate work in metal and received her MFA from the University of Wisconsin in Madison in 1982. Her highly individual works often relate to changes in location and personal experiences and always display a sensitivity to materials and a high level of craftsmanship.

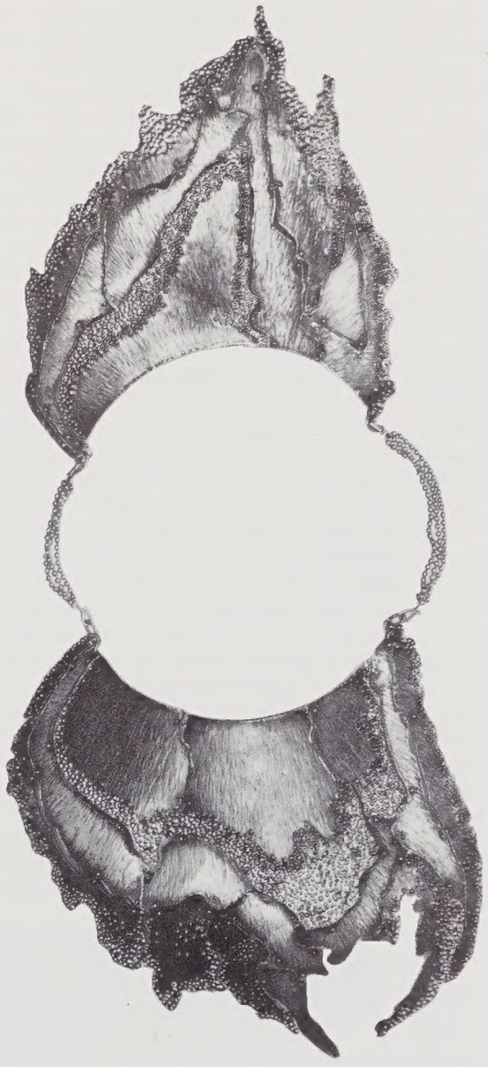
Monumental Piece is a maquette proposed for a public site in Madison. The full-scale pyramidal piece, about 12 feet at the summit, would stand amidst trees, mirroring natural forms, but in a metamorphosized state of crystalline perfection. The sense of clear geometry evokes the crisp winter air of the Midwest, which gives forms a surrealist precision. The shadows from the cast aluminum trees are intended to extend beyond the piece linking it with the natural world around it. Trees, road and open sky are themes which recur in much of Kluge's sculpture.

Reliquary for a Landscape consists of a miniature embroidered landscape framed by bronzed and silver folding wings. On the back the same landscape is photoetched. In this piece Kluge sanctifies nature. *In Hardwood Groves,* with its bronze and brass inlay leaves, is a direct artistic response to a poem by Robert Frost and to autumn in Madison. Kluge's more recent work explores the transformation and recombination of both natural and man-made materials. *Transformation* is a pewter basket filled with birch bark and twigs—some natural, some cast in pewter. The transformation involved is that of nature to art.

The sky and the open road are *leitmotifs* in Kluge's art. *Homage to Orion* incorporates a copper pyramid skirted by a black sky which unfolds like a giant fan. The blackness is pierced by dotlike silver stars. *Orion* was inspired by a view of the sky unfolding like a continuous ribbon through rows of trees. Despite its minature scale, it is monumental in spirit and could easily serve as a stage set. *The Road Not Taken* is a highly structured piece about changes, choices and adaption, whose title alludes to a well-known poem by Frost. The pyramid, the road and the sky are tightly interwoven; the form closes in on itself—perhaps the road goes nowhere, but the ladder and the stair lead resolutely upward. Kluge has introduced color in this piece; earth and sky tones which are tinged with symbolism. Like *Orion, The Road* exudes a sense of grandeur. It points forward and suggests the direction that Kluge's metalwork and sculpture may take in the future—clearly defined forms on a larger scale.

Janice Kluge's precision, strong sense of design, love of materials and fine craftsmanship create works which are rare and beautiful—modern artifacts of exceptional quality. ■





Top Janice Kluge, *The Road Not Taken,* polychrome metal; **Above** Carrie Adell, *Solar Wind,* neckpiece, copper, sterling silver, 23k electroplated gold. Photo: S. Deveaux

Jewelry Design: New York State Artists
Herbert F. Johnson Museum of Art,
Cornell University, Ithaca, New York
June 21–August 21, 1983
by Deborah Norton

For the "Jewelry Design" show at the Johnson Museum of Art, Louise Porter, Coordinator of Crafts, selected both jewelry and sculpture by New York State artists. She was especially drawn to artists oriented toward jewelry design but working in the less confining area of sculpture. She would like to encourage metalsmiths to test the boundaries of jewelry. This show featured some extremely fine pieces that would delight and intrigue anyone seriously interested in metalwork. Unfortunately, some commonplace, trite pieces were also included which for me marred the exhibition.

Porter included both recent and older work of certain exhibitors to give viewers a sense of the artists' progression. Others had only current work on display. However, this lack of consistency coupled with a failure to include dates on the labels, caused the sense of progression to be lost.

The most outstanding works in the show were the enamel brooches of Elizabeth Garrison. Garrison's work seems to constantly change and grow. She is not afraid to abandon a style that has been fully explored and move on to something new. She is neither limited nor overwhelmed by her technical virtuosity. This current series of small brooches and a bracelet combined cloisonné enamel forms in radiant colors with found objects. Although some combined so many elements as to become confusing both in imagery and form, her simpler pieces were impressive works of art. In her most successful *Brooch* she juxtaposed the profile of a person and the number one above a shimmering enamel rectangle divided into three sections. The overall balance of form, imagery and color in Garrison's design resulted in a remarkable piece of jewelry, one that was easily wearable yet contained a significant artistic statement.

June Jasen's cloisonné enamels were another highlight in this exhibition. Her *Interchangeable Dress-up Doll Necklace* consisted of a paper-doll-style figure dressed in a modest chemise laced on a cord. On each side of this form was a clothing outfit, one a ball gown reminiscent of a 1950's prom dress in soft pinks and purples and the other a pair of lounging pajamas in brown and beige. It was left to the wearer to decide how this piece should be worn; all three pieces at once, one at a time or the doll figure "dressed" in an outfit. While displaying tremendous technical skill in the subtle color gradations of her enamels, Jasen's main emphasis was on the humorous quality in her work. It was to her credit as an artist that this playfulness never overshadowed her concern with form and proportion.

Ruth Nivola, coming from the world of fiber rather than metal, offered a fresh approach to jewelry. Her neckpieces, akin to ancient primitive art, were nevertheless very much her own and very up to date. *Joyful Tears* was composed of an inch-wide choker crocheted in gold metallic threads from which four crocheted golden threads hung to the waist. On each thread was one elegantly wrapped bundle interspersed at a different height. Each precious bundle consisted of the same crocheted threads enclosing a swatch of luxuriously colored oriental silk. The total effect was of an exquisite personal statement.

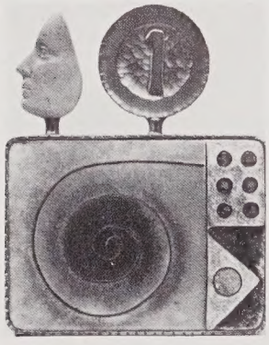
David Freda was one of the artists whose work was shown as a progression. His early work, apparently influenced by the jewelry of Albert Paley, was well crafted but uninspired. However, following a trip to Alaska and a stint as a taxidermist, a style, imagery and even technique all his own has emerged. Freda has developed a process he calls "slumped" aluminum, achieved by heating the aluminum in a kiln until it melts, forming a soft wave pattern. Through experimentation he has also evolved a method of enameling on aluminum which he characterizes as very spontaneous. His most accomplished piece *Primordial Transformation (Open-Face Jewelry Box)* is a small landscape. On a lazy-Susan-style base he created a background of slumped aluminum with a glittering enamel surface. On this surface were placed two neckbands in concentric configuration and a mummified baby snapping turtle. Within the neckbands were the highlight of the piece, six superb sterling silver eggs, each with a lustrous pearl-like finish. Whole, perfect eggs rested next to broken eggs seemingly left behind by newly hatched turtles. The illusion of spontaneity projected by the cracked eggs belied their meticulous craftsmanship. Unfortunately, not all elements of this assemblage were fabricated with equal sensitivity and subtlety. In comparison, the ginkgo leaves on the outer neckband seemed contrived. Either neckband could be adorned with any number of eggs by means of a small loop on the bottom surface of each egg. This allows the wearer, in composing the elements of the neckpiece, to add her own creativity to that of the artist, something Freda felt was important.

Lynn Duggan was also represented by both past and current work. Her earlier work was based on the forms developed by her teacher Heikki Seppä, without conveying anything new or different. But a new piece, abandoning the Seppä forms, showed positive results. Her *Reliquary* was a well proportioned, lidded copper container with a yarn and bone handle. Two parallel concave horizontal bands encircled the body of this otherwise convex shape. The bone wrapped with copper wire was attached to a wrapped yarn cord which formed a handle that nestled within the lower concave band. Numerous contrasting elements turned this deceptively simple piece into an original statement. There was the imperfection of the pitted bone versus the perfection of the well-made container; the soft yarn of the handle versus the hard metal; the texture of the hammer marks covering almost the entire container versus the small area of smooth surface on the lid. This appears to be a promising new direction for Duggan.

Judith Mitchell Horowitz showed traditional, sculptural jewelry in sterling and 18k gold. Though not breaking any new ground or taking any risks, the work was finely crafted. Much the same can be said of Gammy Miller's woven linen neckpieces with shell shards. Hanna Geber was represented by cast sterling jewelry which was not nearly as interesting as her ceremonial pieces. Charles Eldred's sculpture *Jeweled Appliance (Mower)* was so far removed from jewelry design that it was difficult to relate to it within the context of the show.

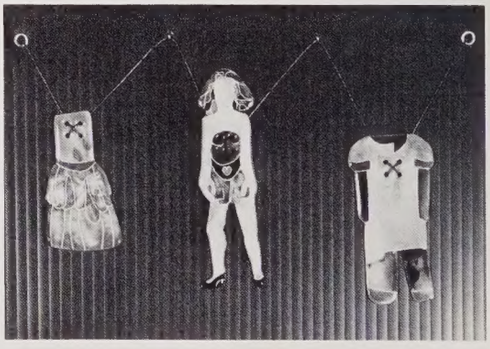
The jewelry of Steve Kolodny, Susan M. Gallagher and Harriet Forman Barrett was decidedly mediocre and boring, similar to what could be seen at any local craft fair. Louise Porter, the exhibit's curator, justified their inclusion in the exhibition for two reasons. First, she hoped that by including these inexperienced but promising artists in a museum show she would encourage them to strive for museum-quality standards. Second, she felt their work would be more accessible than the other pieces in the show to museum visitors unfamiliar with contemporary jewelry. She feared that visitors exposed only to highly sophisticated pieces would be turned off to the entire show.

While both these sentiments are laudable, I am not certain either goal was achieved. By including inferior pieces Porter could have unwittingly inferred to both the creators and the viewers that this was museum-quality work. Furthermore, although experimental, nontraditional work might alienate some visitors, I think second-rate work would have the same effect. I am sure most visitors could easily relate to the traditional, finely crafted jewelry of Judith Horowitz, ensuring that no one would find the show totally inaccessible. The Johnson Museum is to be commended for its long-standing support of crafts through numerous exhibitions. But in the future I think they would better serve the museum-going public if they limited their shows to only top-quality work in all fields. ■



Elizabeth Garrison, *Brooch,* sterling and fine silver, bronze, copper, 24k gold, cloisonné enamel, found object

David Freda, *Primordial Transformation,* open-face jewelry box, sterling silver, enameled aluminum, copper, enamels, mummified baby snapping turtle



June Jasen, *Interchangeable Dress-up Doll,* necklace, cloisonné enamel. Photos: Jon Reis

The Goldsmith & The Grape
Goldsmith's Hall, London, England
July 11–28, 1983
by Marilyn Nicholson

I thought this was a dazzling exhibition, even before I had a glass of wine. It was definitely a step back into history. Two of the great London Livery Companies, the goldsmiths and the vintners, joined to produce a comprehensive exhibition celebrating the traditional relationship between two of life's most delightful indulgences—wine and silver.

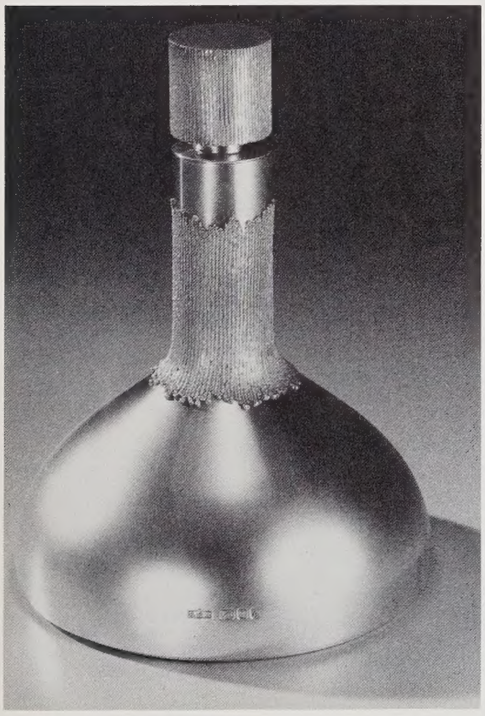
It is impossible to imagine the enormous amount of wealth and technical knowledge necessary to produce the hundreds of glittering items on display. This elegant exhibition was made particularly visually exciting by its surroundings in the beautiful, rich, baroque architecture of Goldsmith's Hall. The historic pieces of silver and gold plate were positively mesmerizing in their use of precious metals.

The exhibition started with a gold beaker dating back to 2,200 BC. Then it went on throughout history, showing secular plate and religious vessels from the Middle Ages to today. There are not enough superlative adjectives to describe the wealth of engraved, embossed, chased and cast designs inspired by organic shapes of earlier medieval goblets and containers, and modern examples were almost overwhelmingly contrasted by the opulent, sometimes grotesque and overabundant fantasy created by flowers, foliage, animals, birds, human figures and mythological beasts. Precious metals were combined with enamel, crystal, ceramics, coconut shells, ostrich eggs, horn and so on.

There was also a selection of accessories for tasting and cooling; a series of ingenious miscellaneous antiques, and a very good representation of contemporary silver. Among the samples of the last, most impressive was a collection of 37 wine cups commissioned by the court of assistants of the Goldsmith's Company. Since 1957 the Goldsmith's Company has given a sum of money to each of its 30-strong governing bodies to commission a wine cup for personal use at lunches and dinners at the hall. It is a remarkable collection, which illustrates a wide range of personalities indicated by style and taste in design. It is very encouraging to note the superb craftsmanship available from contemporary designers and it is good to think the Goldsmith's Company by starting such a tradition is continuing to encourage modern silversmiths. There were well over 100 examples of modern silver produced by more than 50 designers.

The vintners, as their part of the exhibition, provided wine and expertise for a series of tastings given in conjunction with films and lectures about the working of precious metal and the serving of wine. The fourth of July, an occasion not necessarily celebrated by the English, was commemorated by the Goldsmiths with a luncheon featuring American wine and blueberry pie. As part of the wine tasting that day, a selection of seven wine writers were given an opportunity to see if silver changed the taste of wine. Each judge was asked to taste six known second-growth clarets from an ordinary glass and then they were retasted blindfolded to see if they could identify them again in silver goblets. Without the advantage of seeing the color of the wine, the panel were still able to identify 50 per cent —a seemingly good proportion. The taste remained unchanged. The silversmiths sighed relief. ■

Claude Blair, retired keeper of metalwork at the Victoria & Albert Museum, should be gratefully credited for compiling this superb exhibition and its handsome catalog. The catalog is available for £3.70, including surface postage, from Goldsmith's Hall, Foster Lane, London EC2V 6BN.



Decanter, 1975, marker's mark of Grant MacDonald, 21.5 cm h.
Photo: courtesy The Goldsmiths' Company

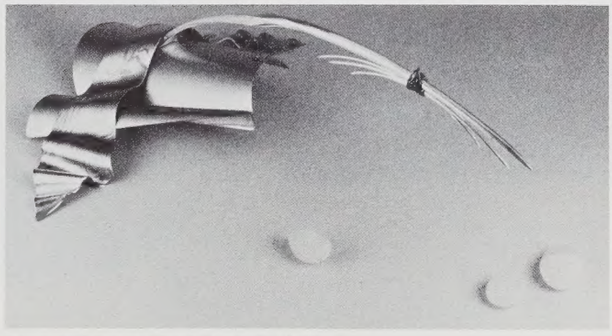
M. Avigail Upin: Current Work
Contemporary Crafts Association Gallery
Portland, Oregon
June 23–July 16, 1983
by Dana Bussell

M. Avigail Upin's carefully constructed work displays a cool and impeccable cleanness of style, with silver the dominant material. Her earlier work—jewelry and containers—characterized by literalness and elegant miniaturization of everyday objects, was drawn from the artist's memories. An interesting duality is evident in the earlier pieces. Having admired the work of Fernand Léger, who rendered the figure in the manner of machines, Upin developed a precise formalism for her work related to Léger's during her studies at San Diego State University. The other side of this duality is a traditional feminine sensibility, shown in her use of filigree and textile techniques with wire to produce delicate effects. The choice of subject matter and the small scale of the work make it very personal and somewhat sentimental.

Two clear examples of this duality are *Collar* and *Fragments II.* The former is a neckpiece of lacelike, crocheted, aqua-colored wire, each end of which is capped by a silver cuff of a blouse. Tiny details such as buttons appear to be sewn in place. In contrast are the stark and formal checkered patterns between the cuffs and the basic, rigid, geometric shapes which make up the cuffs. *Fragments II* is a small container in the form of a garment. Intricately woven wire fasteners have a very different connotation than the harsh angles and planes that make up the folds of the garment's material.

There is evidence of an evolution of style. The most recent work shows a transition toward greater abstraction. A bowl form, entitled *934 7th Avenue,* whose only literal elements are a pair of jacks and the numbers 934 engraved on three steps inside the bowl, produces a vague effect, tied perhaps too literally to a memory which is obscure to the viewer. In *Wisconsin Landscape,* another container, the images of a two-lane highway and silos are distorted, but, as in earlier work, Upin relies on them to give a literal picture of a place more than to evoke its atmosphere.

In the two most abstract pieces *Fishin' 2's & 3's* and *Torn 2's & 3's* forms only suggest objects. Sentiments are strongly conveyed through ambiguity. They are also purely sculpture, abandoning functional formats. All characteristics of the earlier pieces are present, but they have taken on a more subtle role. What stands out is the suggestion of emotional qualities, such as yearning or tension. This direction toward greater abstraction is intriguing. ■



M. Avigail Upin, *Fishin' 2's & 3's,* sterling and nickel silver, copper, 2½x8x5½"

German Jewelry:
Freedom Through Precision
Contemporary Artisans Gallery,
San Francisco
June, 1983
by Alan Revere

Mention German craftsmanship, and we think of diligent Black Forest elves making precision cameras and automobiles. Ordinarily, "precision" connotes accuracy, quality and attention to detail. Precision need not constrict creativity. In fact, as demonstrated by the outstanding exhibition of German jewelry at Contemporary Artisans Gallery, precision can open vast horizons for creative exploration and self expression. Sixteen German jewelry designer/goldsmiths contributed their work for the show which displays a high level of achievement in the goldsmith's art. With the challenges of controlling their medium well behind them, these jewelry designers often flaunt their technical mastery while demonstrating the boundless freedom possible through precision.

Look at it this way. When NASA scientists plan to explore a new corner of outer space, they know that the only way to get there is through precise control of their medium, aerospace engineering, materials physics and so on. The same rules govern artistic exploration. An artist without control of his medium is like a hyperactive chimp with fingerpaints.

In maintaining a reverence for precision for which German craftsmen are renowned, the participating designers nobly carry the tradition of fine craftsmanship to new frontiers. These master craftsmen exhibit such precise control of precious metals that the only challenge left is to throw open the gates of their creative minds with the same freedom as a high-flying explorer.

The traveling exhibition would not be complete without including Klaus Ullrich who has influenced this generation of German jewelry designers as much as any other person. As professor of the acclaimed Pforzheim School of jewelry for a quarter century, Ullrich has continuously won awards for his innovative designs. Certified as a master goldsmith and silversmith, Ullrich demonstrates in his work his fascination with visual perception and tension. He gains subtle control of the viewer's eye, as in his *Leaf Spring* bracelet, which focuses on a taut gold thread supporting two cool stainless steel bars.

The work of designer Hermann Schafran, who received his advanced training in Pforzheim, epitomizes an obsession with precision. Schafran repeatedly tackles the most difficult designs and carries them off with the elegance of genius. His undulating disc necklace is a masterpiece of beauty achieved through precision.

Jewelry designer and master lapidarist Bernd Munsteiner also received his design training under Ullrich. He expands the goldsmith's medium to include semiprecious gemstones carved as integral elements in his 18-karat gold jewelry. Incorporating the frozen beauty of gems, he masterfully combines them with flowing yellow gold, creating an art form uniquely his own.

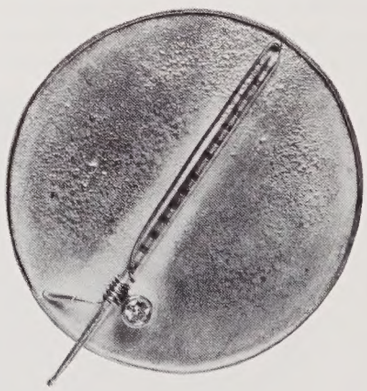
Inspired by nature, Elisabeth Kodre-Defner's jewelry looks as if it were caught by a fisherman with a golden rod. Winged insects and sea shells appear frozen in gold and silver, occasionally embellished with gemstones. Her work could be described as golden fossils discovered by a Midas archeologist.

Wilhelm Buchert's elegant jewelry combines geometric and organic inspiration. In platinum and 18-karat gold, his work is an interaction of constructivist design with the organic fingerprint of the artist.

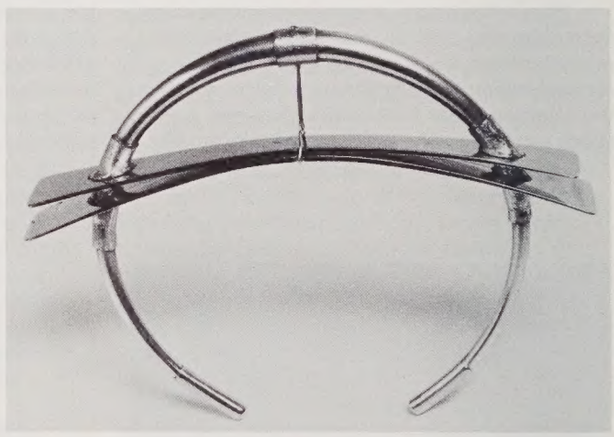
Also represented in the show was Sous, an artist with two mediums. As both sculptor and goldsmith, his jewelry has the texture and craftsmanship of ancient adornment, as well as the intellectual appeal of contemporary design. Recent work by Christophe Burger, also shown here, displays his venturesome designs combining such contrasting materials as slate, gold, mother-of-pearl, titanium, silver and diamonds. Burger's jewelry is bold and graphic. He carefully controls every minute detail of the composition.

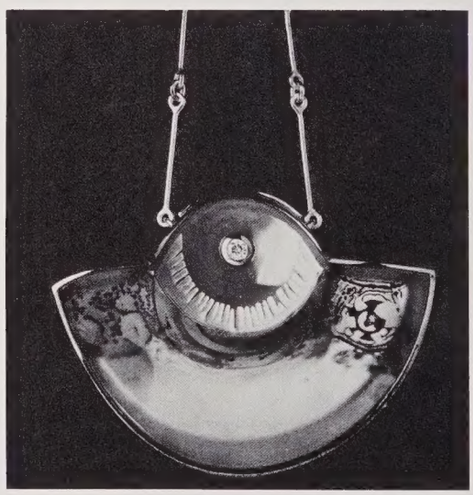
While the designers included in this exhibition are indisputably masters of the goldsmith's medium, they diverge in their individual expression of creativity. Some let their fascination with precision lead them to pursue the challenge of geometric/constructivist design. Others employ their precise skills to pursue organically inspired jewelry designs. After viewing their work, it is clear that a mastery of technical precision in precious metals leads to freedom of expression and a deeper level of creative exploration in jewelry design. ■

Hermann Schafran, *Necklace,* undulating disc, 18k gold, sterling silver



Wilhelm Buchert, *Brooch,* 18k gold, platinum





Top Klaus Ullrich, *Leaf Spring,* bracelet, 18k yellow gold, stainless steel; **Above** Bernd Munsteiner, *Pendant*

Joan Michlin: Current Metalsmithing
Creative Metalsmiths,
Chapel Hill, North Carolina
September, 1983
by Lynda and Mark Baldridge

Celebrating its move to a new location, Creative Metalsmiths featured the slick art jewelry of Joan Michlin. Her futuristic style was toned down with materials that have transcended time—all gold jewelry, most with a small diamond or two. The highly reflective surfaces were technically flawless, well designed and artistically appealing. Man-made chains were the most disturbing element, although they were an important factor in keeping the prices within an affordable range.

A native of Michigan and product of Memphis Academy of Art, Michlin has been living and working in New York City for four years. In college she created jewelry to sell at craft fairs, and now she has achieved a successful fusion between the commercial and art worlds. She utilizes production casters and diamond setters, while remaining true to academic design concepts. Light, energy and motion synthesize in Michlin's work, whose space-age titles add to the message: *Streak, Explosions* and *Futuristic Fan.* One sensed a tightness to her work, almost demanding to be let free, like a comet ready to soar. Joan Michlin's collection presented a strong, unified design approach, with the exception of two nonfunctional items: *The Engraver's Tease,* an engraving tool made from fine silver with a carved malachite handle, and *The Weaver's Tease,* a similarly well-executed piece.

This show was important not only for the artist and the three other "creative metalsmiths" who own the Chapel Hill gallery, but for the trend it represents—a trend towards metal artists creating their own avenues of employment. With college teaching jobs at best, stabilized, at worst, fading, this new breed has had to fight to establish itself. By exploring more commercial ventures, like designing for the public and opening small shops and galleries, this group has taken risks and should be credited with bringing art jewelry out of its ivory tower. Welcome to the real world. ■

Charles Lewton-Brain
Nova Scotia Crafts I
The Upstairs Gallery,
Mount Saint Vincent University,
Halifax, Nova Scotia
July 7-24, 1983
by Vita Plume and Robert Hayward Anderson

A goldsmith, not only a jeweler, Charles Lewton-Brain exhibits the competence and traditional skills accumulated through studies at the Nova Scotia College of Art and Design and his experience working with goldsmiths Karl Angermeir and Richard Bossert in West Germany.

One must look closely at Lewton-Brain's work or risk missing hidden mysteries, intents and gestures. Such depth can be seen in a ring commissioned by a local potter. In essence it deals with the elements of earth and water. Entwined into the narrative are a ruby and an emerald, while a diamond rests concealed on the interior surface of the ring, a precious secret known only to the wearer. Attention to detail goes beyond or, more accurately, behind the actual design. Lewton-Brain considers the backs of his pieces of equal concern and has fitted many with painstakingly handmade clasps. The deeper one examines this work, the more one discovers the visual code of its creation. From the delicate scoring to the colorful firing, these discoveries enhance the magic of the goldsmith's craft.

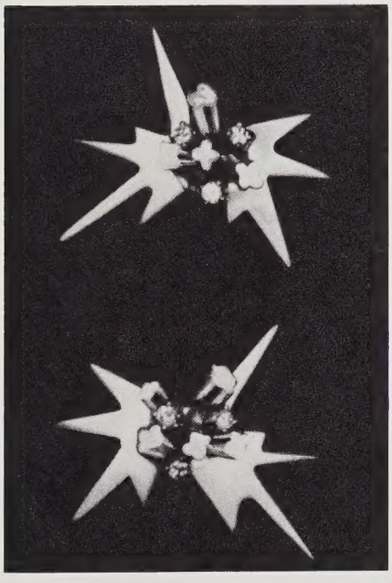
A chronological viewing of the work reveals a parallel development of technique and ideology. A questioning of materials is evident in the juxtaposition of the precious, the weathered and the industrial. Pins combining such diverse elements as sterling silver, aluminum, 24k gold and rusted steel investigate the socio-economic values along with the intrinsic physical qualities of the metals.

The nature versus technology struggle over the mastery of elements was a concern developed during Lewton-Brain's summer on Baffin Island working as manager at Frobisher Jewellery. Time, weather and chance are all components of this work. In introducing the exhibition Chris Tyler, Executive-Director, Nova Scotia Designer Craftsmen, comments: "Charles became aware of industrial debris-metal left abandoned, worthless yet patinated by the natural forces of wind and weather. Some of his most powerful pieces contrast civilization's richest materials with metal so unregarded it was thrown away until redeemed by the goldsmith."

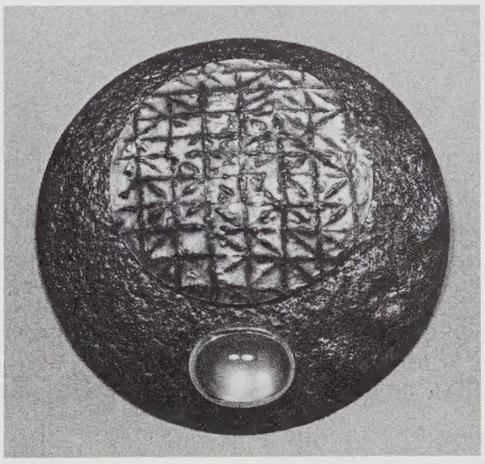
The most moving examples of Lewton-Brain's philosophical intent are seen in three works. The first is a pin of sterling silver and 24k doublée (rolled gold), scored and fired to resemble a fissured, rocklike object. Imposed upon it is an aluminum triangle, severe and exact, its dominance enforced with brass bolts at each corner. The two other pieces, more sculptural and cryptic, are in direct reference to Inuit culture and its manipulation by technology. In both pieces Inuit culture is represented alternately stretched and punctured, dried skins of gold over technology's metal structures. Each element rests precariously, unsoldered on the other, emphasizing the sense of delicate balance.

A traditional goldsmith, Lewton-Brain is confronted by the challenge of creating decorative objects for personal adornment while striving towards the domain of personal statement. This exhibition revealed work ranging from traditional jewelry to conceptual sculpture. These two polarities, straining towards one another, creates tension in Lewton-Brain's work and promises that each time we look, what we see is more than jewelry. ■

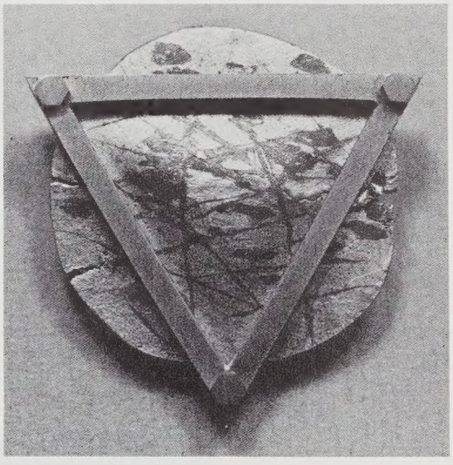
An illustrated checklist with introduction by Chris Tyler is available from Art Gallery, Mount Saint Vincent University, Halifax, Nova Scotia B3M ZJ6 Canada.



Joan Michlin, *Explosions,* earrings



Charles Lewton-Brain, *Pin,* 24k gold, doublée, moonstone, 7.5 cm d.



Charles Lewton-Brain, *Pin,* sterling silver, 24k doublée, aluminum, brass, 3.5 cm d.

5x Austrian Jewelers
Gallery Spectrum, Munich, W. Germany, 1983
Museum of Applied Arts, Vienna, Austria, 1984
by Veronika Schwarzinger
and Verena Formanek

All five artists in this show were trained at the *Hochschüle für angewandte Kunst* in Vienna. While their work goes in slightly different directions, they all consider themselves "jewelry artists" and make basically one-of-a-kind pieces, and they all work in a nontraditional way, thinking of jewelry as a nonverbal expression of our time.

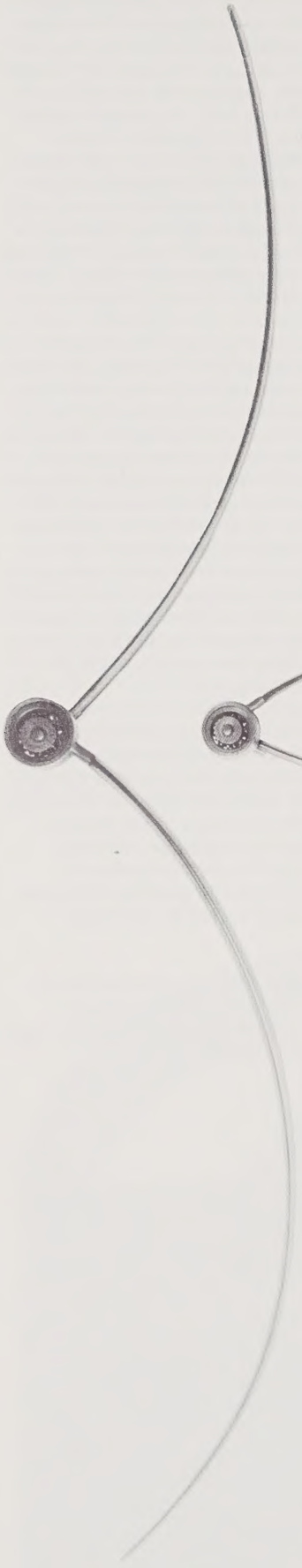
Verena Formanek calls her work *Body needles/body signs.* The needles are made out of thin, clear nylon pipes and stainless steel. When adjusted to the body they show very unusual and exciting lines and combinations of lines. Formanek is strongly influenced by Roland Barthes's work.

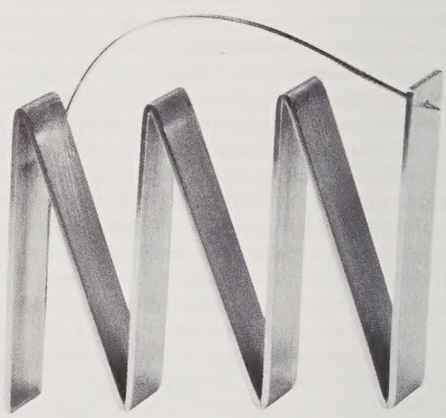
Anna Heindl works in a technique which nowadays is seldom used among jewelry artists in Europe. She makes heads, which she calls portraits, in enamel, using fascinating colors and shapes. Her work often shows the influence of Kandinsky.

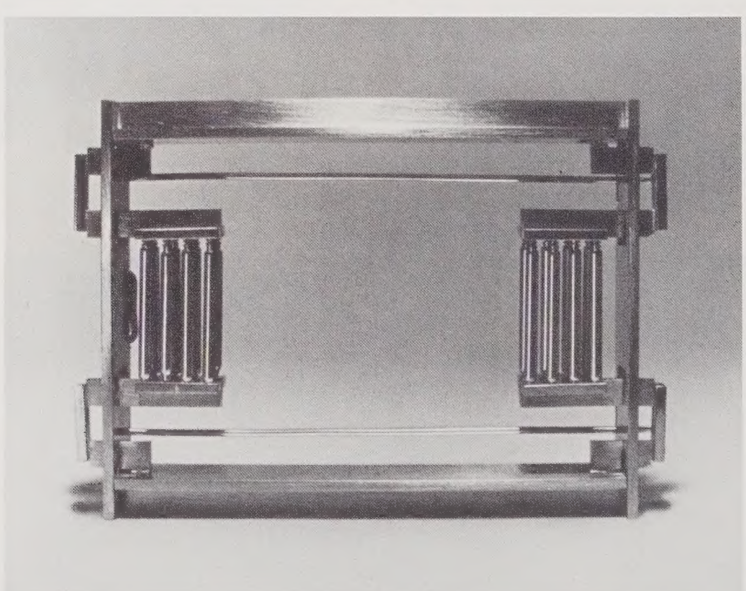
Veronika Schwarzinger continued her studies after Vienna at the Rietveld Academy in Amsterdam. While there she developed a series of work in glass and steel. The forms are simple geometric signs; some have flexible springs which allow them to be fixed to one's clothing in a variety of forms.

Peter Skubic, one of Austria's most well known jewelry artists, works mainly in stainless steel. His brooches are based on different tension systems, which can easily be separated while holding the single parts together. He often departs from jewelry and works in sculpture.

Karl Vonmetz's work is made of stainless steel; it is meant to be touched and played with. He makes little cars and rollers which he calls *Kultwagen.* His rings when removed from the finger roll irregularly on a tabletop. ■







Above Verena Formanek, *Brooch* (open and **right** closed versions), silver, steel, plastic; **Top right** Karl Vonmetz, *Brooch,* stainless steel

Above Peter Skubic, *Brooch,* steel, 1980. Photo: Tietze; **Right** Anna Heindl, three *"Head" Brooches,* silver, enamel, 1982; **Page 3** Veronika Schwarzinger, *Earring,* glass, steel, 1982

The Goldsmiths Studio & Shop

by Joan Mannheimer

Reviving the virtually dead enameling technique plique-à-jour, which means "the light of day as seen through a membrane," has been a challenge to Jean Sampel and Susan Noland since the late 1960s. Their interest in this technique, perfected by the Russian enamelist, Peter Carl Fabergé, and the Art Nouveau jeweler, René Lalique, began during their student years at Drake University in Des Moines. When the two designer-craftsmen collaborated their business efforts as The Goldsmiths, their jewel-tone plique-à-jour objects were displayed along with jewelry and holloware. "Beauty is always in vogue," Sampel reminds us.

Prior to opening their studio & shop in 1978, each woman had been teaching and maintaining a studio in her home. They stopped teaching and started their business without a bank loan or financial assistance. The extent of their capital was a $3000 commitment by each proprietor. Since then each has been able to support herself entirely from business-derived income, which greatly exceeds that of craft teaching at the university level. The business has attained top rating by the Jewelers' Board of Trade and a favorable listing in Dun & Bradstreet. (The listing resulted from a credit rating check by Dun & Bradstreet at the request of a diamond supplier. The actual or estimated net worth of a business plus the composite factors of ratio of debt to investment, cash flow and promptness in bill payments determine the Dun & Bradstreet evaluation.)

Very soon after The Goldsmiths opened on a small shopping street in a public high school neighborhood, a silver-haired woman asked them to shorten and file some old-fashioned, white metal hairpins which were too heavy for her thinning hair. It was hardly a test for the talents of a designer-craftsman, but the job was done. "Since then," says Sampel, "we have made several custom pieces of jewelry for that woman and her friends. She has become a patron as well as a customer."

Many of The Goldsmiths' customers had become familiar with their work at local exhibitions and fairs. However, it was primarily by word-of-mouth that their reputations were established. Even now they do not advertise; it is their clientele which does that for them. It is not unusual for a customer to walk into the studio, lean across the half wall which separates the display area from the workbenches and say, "I just want you to know how much I am enjoying the piece you made for me."

In addition to a limited clientele, Sampel and Noland each brought to the business equipment, sound credit with suppliers and some antique wooden wall display cabinets and standing cases. What had been a T-Shirt factory wedged between Pappagallo's and a travel agency was transformed into a 600 square foot studio & shop. Except for the carpeting in the display area and the sink in the work area, The Goldsmiths did all the renovations themselves—painting the walls, hanging a large cork display board, handlettering the business name on the door, making the outdoor awning, painting and installing the eight-foot shutters across the storefront window and refinishing the massive old safe with black Chinese lacquer. During the two months it took to complete the work, friends and shoppers dropped in to watch and, occasionally, to offer advice or lend a strong arm.

Although the design of the objects displayed is sophisticated and much of the jewelry gold set with gemstones, the atmosphere remains casual, friendly and comfortable for even the shopper with limited means. Depending upon who can stop working at the moment, either Sampel or Noland will talk with the prospective customer, explaining the craft process and suggesting something appropriate, if it is available. Custom design and commission orders have increased to the point at which The Goldsmiths have difficulty maintaining a retail inventory. One year after they opened, they decided to close on Mondays so as to have uninterrupted studio time. Now, they are also closed during August to prepare for the Christmas season.

Noland expresses delight in the custom-design orders, "We get to be in on so many special occasions and surprises for our customers: a 40K amethyst ring replaced for an elderly mother by her children who remember playing with the original 'rock' in their childhood; a plique-à-jour box for Los Angeles relatives celebrating their 30th wedding anniversary; a sterling silver Kiddush cup for a granddaughter's Bar Mitzvah."

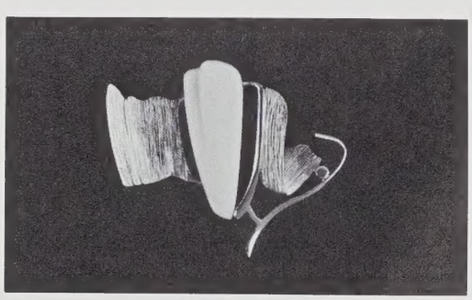
By combining studio and shop The Goldsmiths involve their customers in the metalsmithing processes. When odd numbers and shapes of stones are brought to them for new designs and mountings, their creativity and design originality are stimulated and expanded by the customer's ideas. "Because so few customers are able to visualize the finished piece, even though they have seen it in various stages of progress, we are thrilled by the trust placed in us," says Sampel. She recalls a very wide, old ivory bangle bracelet which had a deep crack. The customer had asked Jean to break the piece and make a hinge so that it would be wearable again. "The next time I saw the bracelet with its gold and silver hinge and jewel-topped holding pin was at a designer-craftsmen show as one of my entries!"

Men watch the activity in the studio with fascination. An orthopedic surgeon, dentists and men who enjoy manual arts as a hobby are at ease there. Accessibility to the public is an advantage to The Goldsmiths—the customer better understands the techniques and processes. However, they acknowledge that it can also be a disadvantage. Helping browsing shoppers as well as chatting with regular customers reduces work time.

Even this limitation does not stop Sampel and Noland from entering local exhibitions because they are committed to the high standards of the art community. Still, they no longer attend art fairs. Occasionally, they submit work to national shows. Sampel's *Beetle Box* received the Merit Award at the 1976 International Enamel Exhibition in La Jolla, California. Noland's sterling silver and Biwa shell caviar spoon and silver honey dipper were in the 1980 "For the Tabletop" exhibition at the American Craft Museum in New York. The women are willing to exhibit any piece they make. "We do not differentiate between work made specifically for exhibition and that for the retail trade. Every piece worn or used by our customers is 'on show.'"

The Goldsmiths have established a unique learning-while-shopping experience in their studio & shop and have made the Des Moines community conscious of the role designer-craftsmen can have in choices of contemporary jewelry and metalwork.

Joan Mannheimer is a collector of contemporary ceramics and serves on the advisory committee to the University of Iowa Museum of Art.



Above Sampel, *Prometheus,* box, sterling silver, chased, repoussé and constructed. 2½x2″.
Right Noland, *Ivory Field,* brooch, 14k yellow gold with carved ivory, forged and engraved. 1½x1¼″

Tools + Techniques

Pumice Finishing and Brass Wire Brushing

by Bernard Bernstein

The first time I saw a machine for pumice finishing and brass wire brushing was at the School for American Craftsmen. I don't know if it is available as a ready-to-use product as I have never seen it in a supplier's catalog. However, I found it easy enough to make.

This machine is designed to rotate slowly, because it is used with a pumice and water slurry for removing scratches and firescale and for producing a transitional finish between silicon carbide paper and standard buffing wheels. It can also be used with a brass wire brush and a soapy water lubricant. In any case, speeds higher than about 200–300 rpm will probably cause the wheel to throw off enough liquid to soak you.

In order to achieve the necessary low speed, a step-down pulley system is the most convenient method. To calculate the final shaft speed: Multiply the motor speed (usually 1750 rpm) by the ratio of the diameter of the small pulley on the motor shaft to the diameter of the large pulley on the polishing shaft. For instance, if the small pulley is 2" in diameter and the large pulley is 8" in diameter, then 2/8, or 1/4, of 1750 equals 437.5 rpm. If this turns out to be a bit fast, use a motor with a lower speed (some air conditioner motors run at about 1150) or try a smaller motor pulley or a larger shaft pulley. The tendency to spray water is also based on the peripheral speed of the polishing wheel, which varies with the diameter of the wheel. At a given rpm, a 3" brass wire brush may not throw water while a 6" brush will.

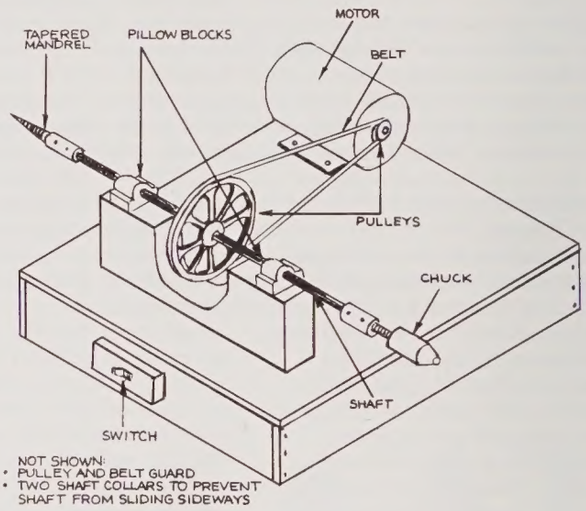
All the necessary parts are easily acquired and can be assembled by someone who knows how to do woodworking and electrical wiring. Old motors can be found at flea markets and yard sales. A discarded washing machine or air conditioner can be a good source. Because the speed is stepped down considerably, the motor's torque is automatically stepped up. This means that a fairly low power motor will do quite well. A 1/6 or 1/8 hp motor will probably be adequate.

The shaft is made from a length of 1/2" drill rod, available in any industrial hardware store or Sears. The pillow blocks, pulleys, belt and shaft collars should also be available at these sources. Tapered mandrels come from any jewelry tool supplier. Make sure to specify a left and right mandrel if you wish to have one at each end of the shaft. To make the machine more versatile, put a threaded work-arbor or chuck on the right end of the shaft only. These are also available at Sears or hardware stores. Electrical supplies are also standard hardware items.

There are some safety hazards you should be aware of in using this machine. First, an open pulley and belt system is dangerous and could cause injury; therefore it must be covered. A simple sheet-metal guard can be made for this purpose. Second, make sure that electrical work is done by a competent person. A three-wire grounded system is essential, especially when you are working with wet hands. The motor housing must be grounded and connected to the ground prong on the plug, which must be inserted into the grounded receptacle in the wall. If you defeat this system by using a two-prong adapter, there is no protection from shock if the motor shorts out a circuit.

The accompanying drawing is only a schematic to give you an idea of the arrangement of components. Dimensions and construction details have to be worked out to suit your needs and to fit the dimensions of the parts you are able to buy. The cost of the machine should be around $25, excluding the motor.

To operate the machine for pumice finishing, you can use goblet buffs, cylinder buffs or plain buffs, up to about 3" in diameter. Stitched buffs are recommended. Felt wheels down to 1" in diameter or smaller are very useful and cut very quickly. I do not recommend bristle brushes for extended use, because they throw around a lot of pumice dust. Keep a wide, shallow plastic tray under the working area to catch drips and spray. Also keep a mix of pumice and water in a bowl nearby and a 1/2" paintbrush to stir the pumice and apply it to the work, not the wheel. When wheels dry out from disuse, soak them in water to soften them and to prevent them from spraying dry pumice dust around the room. It also is wise to wear a good dust mask and clean up the work area well after work is finished for the day.



Because firescale removal is one of the important uses for this machine, here is how to find it on your work. Dry the piece and hold a white card or piece of stiff paper at right angles to and below the surface of the silver. Your purpose is to look at the reflection of the card in the silver surface. Any patch of firescale will immediately become visible.

This machine is also ideal for doing brass wire brushing to produce a fine satin finish, to prepare metal for reticulation or to create a tarnish-resistant firescale finish. The last two processes are basically the same in that they create a fine silver surface on top of sterling silver by means of repeated annealing, pickling and brass wire brushing.

Wire brushing must be done at low speed to avoid spraying of the soapy water lubricant. (I have heard that stale beer is also useful as a lubricant.) If the brush is used dry it will deposit a coating of brass on the silver and discolor it. Pumice is not used at all in this operation.

The right end of the shaft can be fitted with a right-hand tapered mandrel or a combination work arbor and keyless chuck. The work arbor enables you to use sanding or lapping discs, grindstones and steel wire brushes. The chuck will hold drills, mounted abrasive stones and anything that will fit a flexible shaft. If you build a tool support you can even do rudimentary lathe work on soft materials such as wax. You can also do sanding of a small, round part by chucking it and holding the abrasive against it. Discovering all the clever things you can do with this machine will depend on the kinds of problems you encounter in your work and the ingenuity and imagination you bring to solving them. ■

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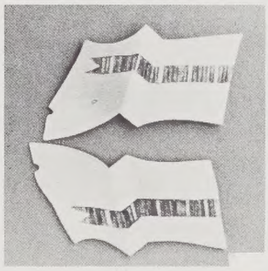
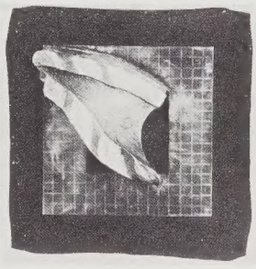
Lynda Watson-Abbott

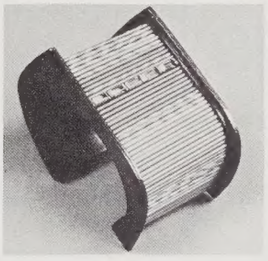


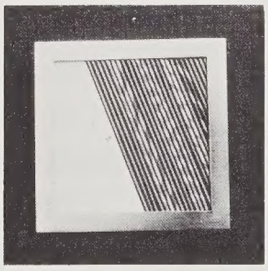
Robert Ebendorf



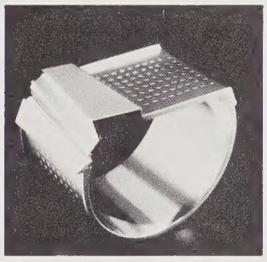
Gary Noffke

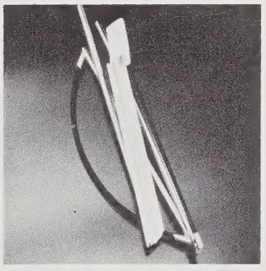
Ivy Ross



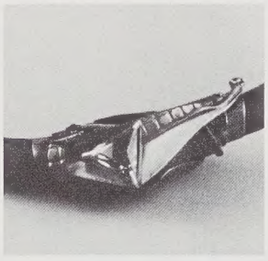


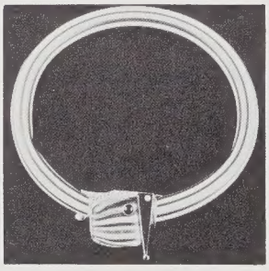
Helen Shirk





Sandra Zilker





This year the event will include an exhibition of work, slide lectures, workshops and demonstrations by Robert Ebendorf, Helen Shirk, Lynda Watson-Abbott, Gary Noffke, Sandra Zilker and Ivy Ross.

An extensive workshop on surface coloration (patinas) and metal forming will be given by Helen Shirk.

Robert Ebendorf will host a workshop exploring creative and innovative thinking processes, utilizing non-precious materials related to Jewelry/Metalsmithing.

Opening Reception: February 15, 1984, 7:30 p.m., NAU Art Gallery

Workshops and Slide Lectures: February 16, 17 and 18.

For further information contact: Joe Cornett, Northern Arizona University, Art Gallery, C.U. Box 6021, Flagstaff, Arizona 86011, (602) 523-3471.

This project is jointly supported by a grant from the Arizona Commission on the Arts, a state agency, and the National Endowment for the Arts in Washington, D.C., a federal agency.

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March 5 - 10 a.m. - 8 p.m.
March 6 - 9 a.m. - 4 p.m.

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SEMINARS

SN1 PRINCIPLES OF FIRE ASSAYING
March 4, 1984 – 8 a.m. – Noon
Level: Basic Cost: $40

SN2 COMPUTERIZING INVENTORY ACCOUNTING
March 4, 1984 – 4-6 p.m.
Level: Intermediate Cost: $20

SN3 HOW TO COPYRIGHT JEWELRY
March 5, 1984 – 10 a.m. – Noon
Level: Basic Cost: $20

SN4 PRODUCTION TECHNIQUES OF THE FUTURE
March 5, 1984 – 4-6 p.m.
Level: Basic Cost: $20

SN5 LEASING OF PRECIOUS METAL VS. CONSIGNMENT
March 6, 1984 – 9-11 a.m.
Level: Intermediate Cost: $20

WORKSHOPS

WN1 BASIC JEWELRY DESIGN AND RENDERING
March 3, 4, 5, 1984 – 8 a.m. – 4 p.m.
Total of 21 hours
Level: Basic Cost: $200

WN2 AN OVERVIEW OF LOST WAX CASTING
March 3, 4, 1984 – 9 a.m. – 3 p.m.
Total of 10 hours
Level: Intermediate Cost: $100

WN3 BASIC DIAMOND AND STONE SETTING
March 4, 1984 – 8 a.m. – 5 p.m.
Total of 8 hours
Level: Basic Cost: $100

WN4 INTRODUCTION TO WAX CARVING AND DESIGN
March 4, 5, 6, 1984 – 9 a.m. – 3 p.m.
Total of 15 hours
Level: Basic Cost: $150

WN5 PRINCIPLES OF ELECTROPLATING
March 5, 1984 – 8 a.m. – 5 p.m.
Total of 8 hours
Level: Basic Cost: $100

EXPO/WEST

March 25-27, 1984

All seminars and workshops will be held at the Westin Bonaventure Hotel, Fifth & Figueroa Streets, Los Angeles.

SEMINARS

SL1 PRINCIPLES OF FIRE ASSAYING
March 25, 1984 – 8 a.m. – Noon
Level: Basic Cost: $40

SL2 BASIC ACCOUNTING FOR THE NON-ACCOUNTANT
March 25, 1984 – 4-6 p.m.
Level: Basic Cost: $20

SL3 MARKETING YOUR LINE – AN UPDATE
March 26, 1984 – 10 a.m. – Noon
Level: Intermediate Cost: $20

SL4 PRODUCTION TECHNIQUES OF THE FUTURE
March 26, 1984 – 4-6 p.m.
Level: Basic Cost: $20

SL5 AN OVERVIEW – TOOLING AND STAMPING FOR THE PRECIOUS METAL INDUSTRY
March 27, 1984 – 10 a.m. – Noon
Level: Basic Cost: $20

WORKSHOPS

WL1 INTRODUCTION TO WAX CARVING AND DESIGN
March 24, 25, 26, 1984 – 9 a.m. – 3 p.m.
Total of 15 hours
Level: Basic Cost: $150

WL2 ADVANCED MODEL MAKING SKILLS
March 24, 25, 26, 1984 – 8 a.m. – 4 p.m.
Total of 21 hours
Level: Advanced Cost: $200

WL3 HARD FIRED ENAMELING
March 25, 1984 – 8 a.m. – 5 p.m.
Total of 8 hours
Level: Basic Cost: $100

WL4 FINISHING AND POLISHING OF PRECIOUS AND WHITE METAL JEWELRY
March 26, 1984 – 8 a.m. – 5 p.m.
Total of 8 hours
Level: Basic Cost: $100

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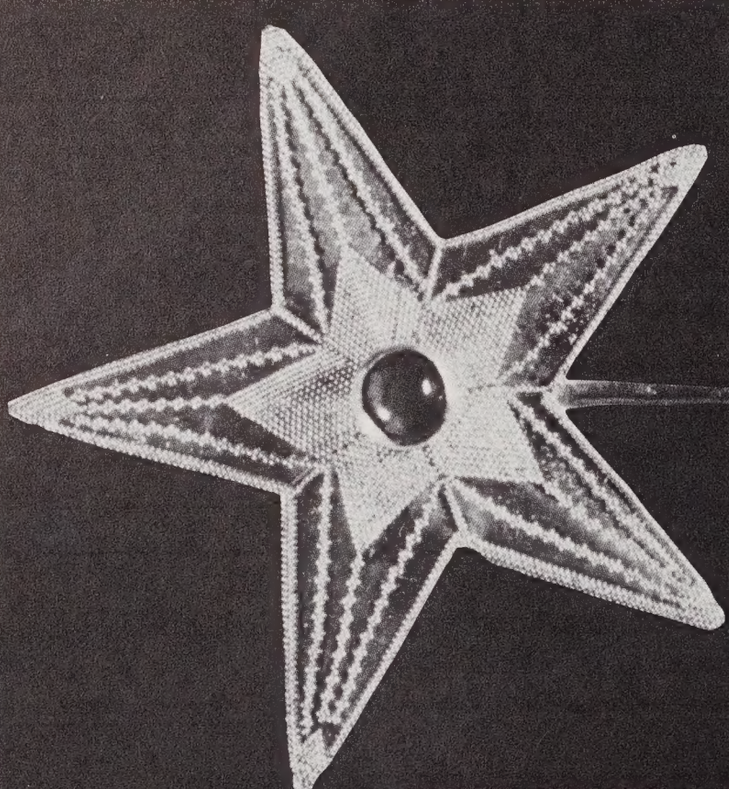

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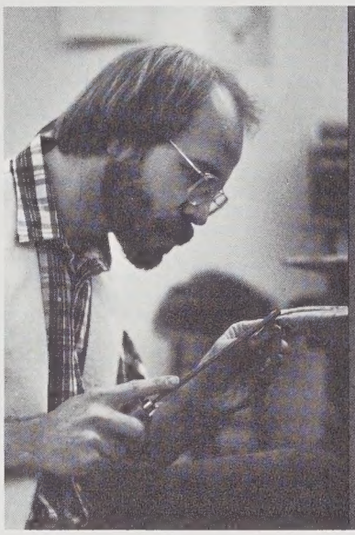

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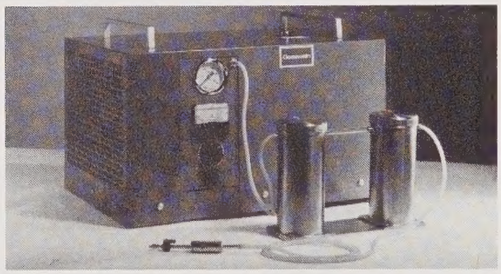

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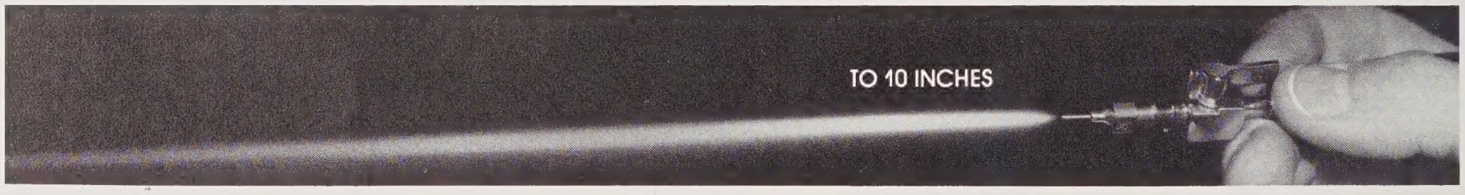

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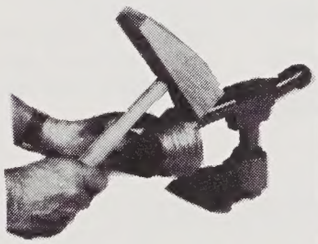

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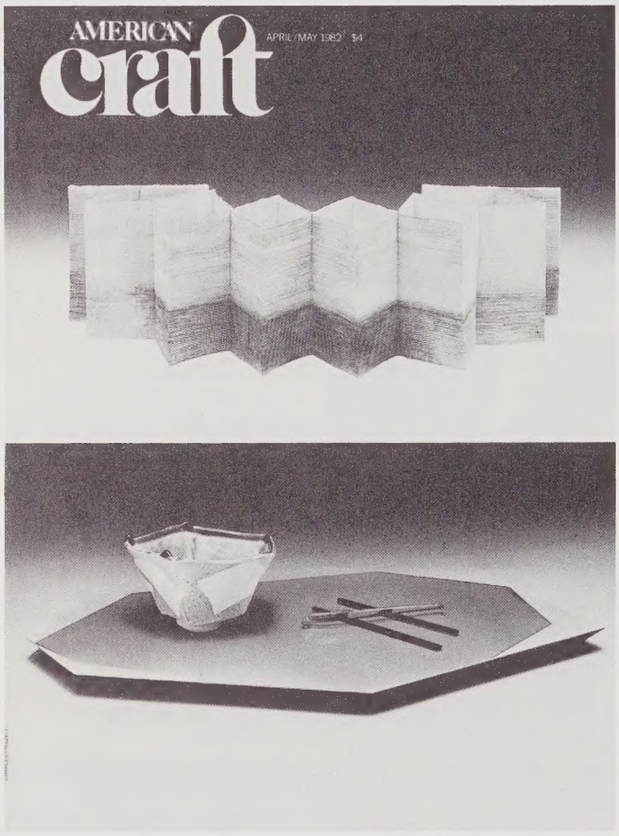

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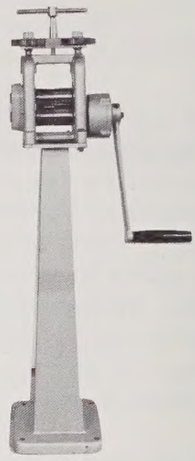

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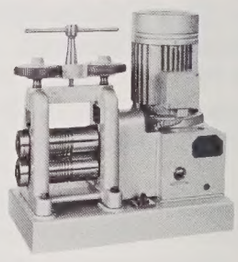

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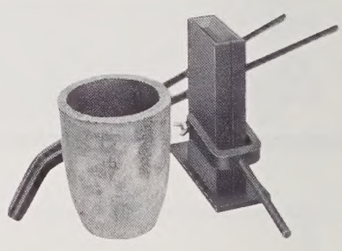

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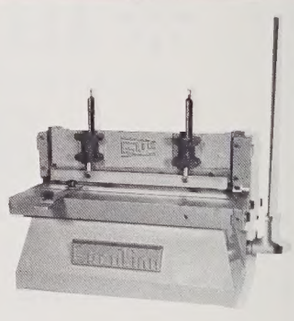

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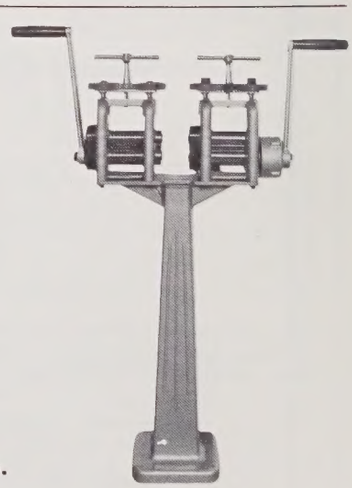

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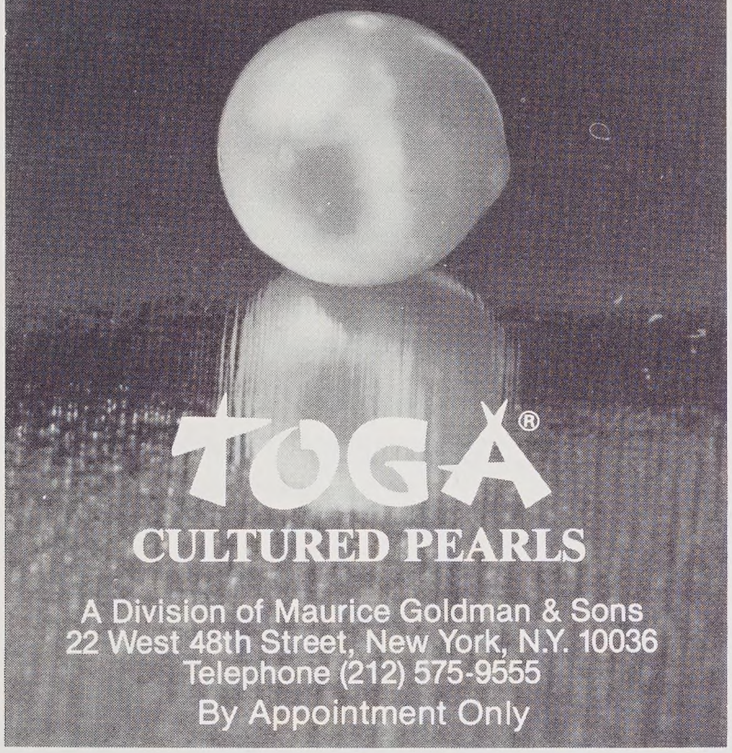

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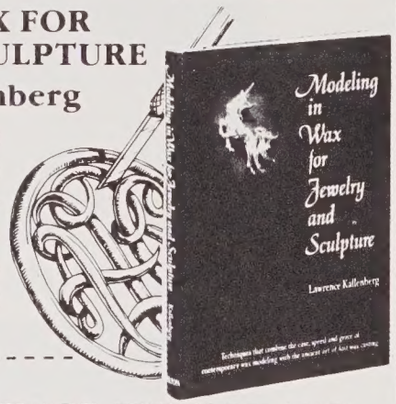

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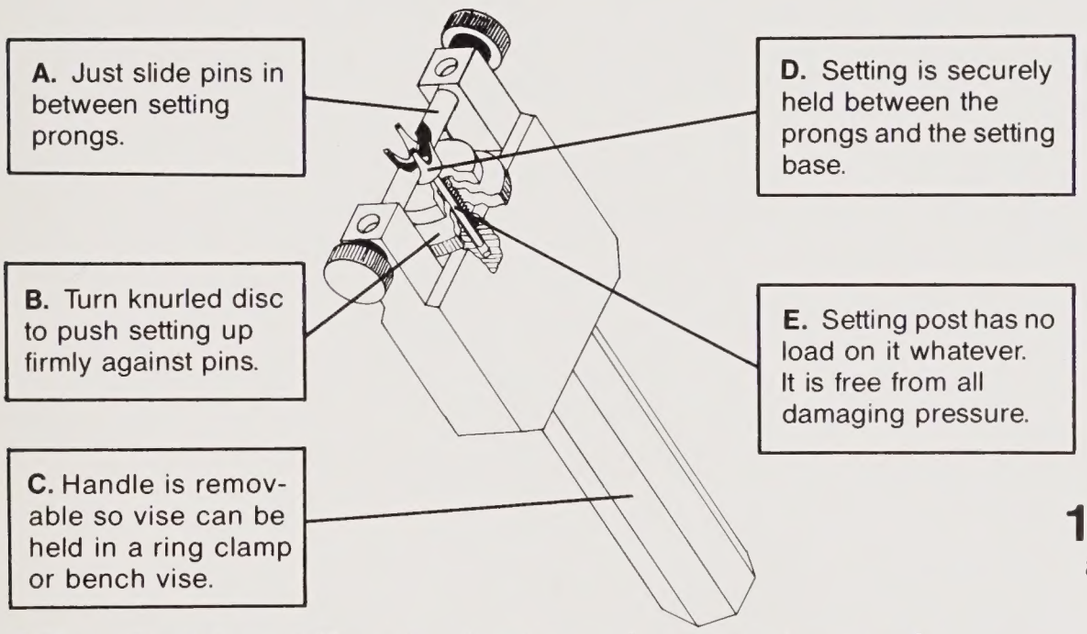
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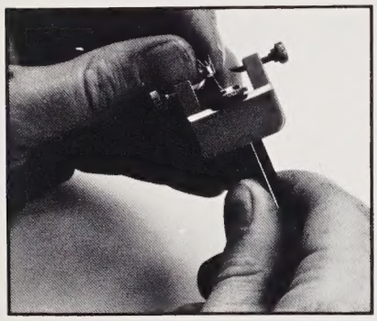
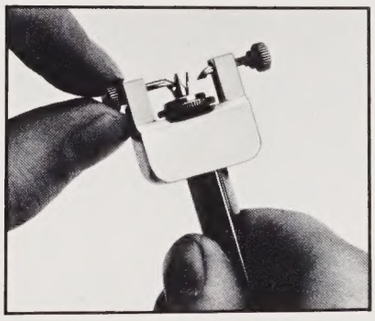


Place the setting in the center of the turn wheel on the vise. If the setting is mounted on a prong, just slide it down through the drilled hole.



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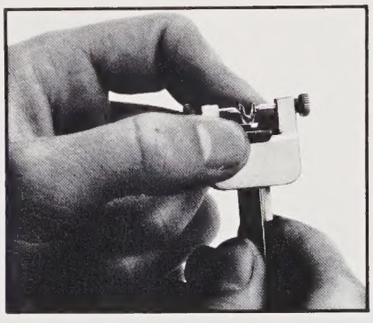

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